

Preface.

In the third section of my book "Origines Ariacae"^{44 x}) I tried to prove that Scandinavia was the original home of the Aryans. It was to be expected from the outset that this hypothesis would not immediately meet with universal approval; after all, it is the hypothesis that, of all the assumptions made about the homeland of the Aryans to date, is the furthest removed from the previously widespread assumption that the Aryans originated in Asia. Theories such as the theory of the origin of the Aryans from Scandinavia, which stand in such decisive contradiction to traditional ideas, can only hope to be accepted without contradiction if they are supported in every respect by unquestionable arguments and secured against every objection.

The investigation of prehistoric remains, undertaken with such zeal in almost all the countries of Europe during the last few decades, has brought to light such a wealth of new material, both anthropologically and archaeologically, and enriched our knowledge of the past with so much new knowledge, that such proof as is necessary to bring the Scandinavian hypothesis to general acceptance can now really be given. In attempting to present all the relevant facts in greater detail than I did in the section of the "Origines Ariacae" cited above⁴⁴ , and at the same time with the aid of the literature that has since appeared, I have not failed to do so.

*) Penka, K., *Origines Ariacae*. Linguistic-ethnological studies on the oldest history of the Aryan peoples and languages. Vienna and Teschen 1883. pp. 45-71.

fails to discuss in detail a number of general questions of anthropology that are related to the narrower questions of the physical type and the homeland of the Aryans, insofar as they receive new illumination through the solution of the latter.

In order to be better able to judge whether I have succeeded in proving that Scandinavia is to be regarded as the homeland of the Aryans, I will cite from the numerous reviews which the book mentioned has received the opinions of all those men who have spoken specifically on the part dealing with the homeland question and whose opinions deserve special attention in view of the scientific importance of the same, and in particular communicate the objections which have been raised against the Scandinavian hypothesis set forth therein.

A. H. Sayce (Academy, 1883, p. 385) considers the view that Asia was the home of the Aryans, a view which he himself had formerly held against Latham and Pöschke (Introduction to the Science of language. London 1880. II. 121) is no longer tenable, and is inclined to regard the neighboring regions of the Baltic as the original seat of the Aryans; we should no longer, he remarks, draw our view of the original life and religion of the Aryans from the hymns of the Rig Veda, but from the mythology of the ancient Scandinavians, purified from the Christian and classical legends. In the third edition of his "Principles of comparative philology" (London 1885. p. XVIII) he likewise confesses his complete conversion to the theory that the original seat of the Aryans was not Asia, but the Baltic provinces and Scandinavia. W. Tomaschek (Globe. XLIV. 281) describes the Scandinavian hypothesis as "worthy of all consideration", but returns in the further course of this review, as well as in his second review of my book (Literatur-Blatt für orientalische Philologie. I. 133) to his earlier hypothesis, first put forward by Benfey, according to which Eastern Europe is to be regarded as the homeland of the Aryans; He sees an internal contradiction in my theory in the fact that, despite my assumption that the Aryan race acquired its characteristic features in Central Europe during the Quaternary period, I do not assume Central Europe, such as Germany, but Scandinavia, to which I only allow them to migrate after the end of the Quaternary period; the thesis that Scandinavia is the homeland of the Aryans is therefore untenable. The numerous Aryan elements in the Ugrian-Finnish languages, which could not possibly have received them from Scandinavia, speak in favor of Eastern Europe; it is inadmissible to conclude the invalidity of Benfey's hypothesis from the fact that the blond type is currently less prevalent in Eastern Europe, which is always ravaged by storms of peoples. Ferd. Justi (Berliner philologische Wochenschrift, 1884, p. 40) considers the question of the original seat of the Aryans to be finally solved by my proof that Scandinavia is to be regarded as their ancestral homeland. Ä. Kirchhoff (Literar. Centralblatt,

1884, p. 427) raises methodological objections to my attempt to solve the question of the homeland by means of geographical and scientific observation; as the example of the Eskimos, Lapps, Ostjaks and Samoyeds shows, there does not seem to be a connection between climate and complexion; all these peoples have still not become blond and blue-eyed despite their incalculably long stay in the Arctic Circle. Müller (Mittheilungen der Anthropologischen Gesellschaft in Wien. XIV. 59) remarks above all that the conclusions drawn from the skulls taken from the graves do not have the degree of conviction that is ascribed to them everywhere; if the latter were to take place, then one would have to be precisely informed about the forms of burial of all the peoples under consideration. Since I do not consider the Aryan type to have originated in Scandinavia, but in Central Europe during the Ice Age, the compelling necessity of declaring Scandinavia to be the original homeland of the Aryans falls away by itself, and any point, of Central Europe can be assumed to be the original homeland of the Aryans. It is a well-known fact that colonies which have departed from their native country to a hitherto uninhabited point, and which are protected from a major foreign invasion, remain pure, while the people of the homeland itself are completely changed by repeated mixtures. P. Mantegazza (Archivio per l'antropologia e la etnologia. XIV. 364) is still skeptical of the Scandinavian hypothesis, as he is of all recent views on the homeland of the Aryans. He tries to put an end to the dilemma that of the two main types under consideration, the blond dolichocephalic (Germanic-Scandinavian) and the dark brachycephalic (Slavic-Celtic) type, only one could be the actual Aryan type, as well as to all conclusions arising from this, that, although he is inclined to concede that a period of 5000 years is too short to transform blondes into darks and darks into blondes, he raises the question of whether it is proven "che una razza non abbia in se stessa la possibilita di oscillare fra il biondo e il bruno, fra il castagno e il fazzo?"

Whether all these objections raised against the Scandinavian hypothesis are justified, the attentive reader will easily be able to form an opinion on the basis of the following explanations.

Without actually refuting the arguments put forward for Europe and Scandinavia, K. E. von Ujfalvy and Fritz Hommel have sought to support the old view of the origin of the Aryans from Asia with new evidence. The former (*Revue d'anthropologie*. 2^e ser. VII. 542) points out, on the basis of the investigations of Frh. von Richthofen, that the Chinese had settled at Bulungir-gol in the 23rd century BC; furthermore, since all traditions of the same point to an immigration from the north-west, i.e. from the side of the Yüü. Since, furthermore, all traditions of the same suggest an immigration from the northwest, i.e. from the

side of the Yü- mönn Passage, and the newcomers seem to have already brought the art of irrigation with them, it is highly probable that the once extensive oases on the southern edge of the Taryan River had been settled there. Oases on the southern edge of the Tarym Basin, between the Lop-nor and Khotan, were the original homeland where the Chinese learned the art of agriculture. The Chinese learned the art of agriculture and from where they migrated to China. Even then, the silting may have driven them away from there. "This may explain," Richthofen continues, "the little that the culture of the Chinese has in common with that of the Aryans (who, if the theory is correct, must have been their neighbors) and what they could not absorb later, when they were hermetically isolated for two millennia. This conclusion receives remarkable support from the Chinese statement about the similarity of the inhabitants of Khotan to themselves. They are probably a remnant of the indigenous Chinese population, who had settled in the flourishing

"China, the most remote oasis of the southern rim, and, after the complete severance of all connection for a long time, was rediscovered by the expeditions of the Han dynasty and recognized as related to its Aryan neighbors." (Richthofen, China. I. 48.)

Even if Richthofen's theory that the Chinese once had their original settlements in the Tarym Basin is correct, it by no means follows that the Aryans must have been their neighbors. What prevents us from assuming that the Chinese invented agriculture and the art of irrigation independently and without outside influence? The very fact that the system of lunar stations in the starry sky (Richthofen, China. I. 404-425) can only be proven for two Aryan peoples, the Indians and Persians, i.e. peoples who most probably lived in their later settlements in the area of today's Turkestan, but not for the others, is the best proof that the Chinese cannot be regarded as neighbors of the original Aryan people.

According to Ujfalvy, the view shared by almost all scholars that the Tranians and Indians had inhabited a land located in the northwest of the one and in the northeast of the other before their separation is also not consistent with my theory; furthermore, the fact that in Central Asia there exists a brachycephalic type with brown hair and white skin color, which in every respect resembles the brachycephalic type of Central Europe; this type is represented by the Galchas, who speak an Aryan language of high antiquity and have never mixed with dark peoples; that a distinctly dark dolichocephalic type exists in the south of these brachycephali; that the blondes occur only sporadically among the dark dolichocephali, but more frequently (8%) among the brown-haired brachycephali; that at some time a blond tribe must have come into contact with the peoples of Central Asia, for among the mixed peoples of Kokan and the Serafshan valley there are 13 and even 27 proc. Finally, that the skull type of the mountain brachycephals living in the valleys adjacent to the Pamir plateau cannot be attributed to Turkic-Mongolian invasions, because the Iranians of these valleys are not of Turkic-Mongolian origin.

isolated and inaccessible valleys were far more brachycephalic than the Iranians of the plains and even the Turko-Mongols of the same regions.

The following arguments will show that these anthropological facts are not only not in contradiction with my theory, but are in the best way compatible with it.

Finally, Ujfalvy declares that the assumption that the Urarians were of tall stature, had a dolichocephalic skull and were blond is a completely arbitrary assertion. A justification of this judgment, as necessary as it would be in view of the numerous facts presented in favor of this assumption, is not given.

Hommel (Archiv für Anthropologie. XV. 164) considers the similarity of certain Aryan cultural words with Semitic words on the one hand, and with Turanian words on the other, to be sufficient to justify the view of a "proethnic" intercourse between Aryans, Semites and Turanians. These are the words: urar. staura, ursemit. thauru "bull"; urar. karna, ursemit. karnu "horn" (the wafia of the bull); urar. gharata, ursemit. charüdu "gold"; urar. sirapra, ursemit. \$arpu "silver"; urar.rauda, ruda, Sumerian (language of the Sumerians, who were related to the Turkic tribes) urud "copper"; urar. paraktü, sumer. balag (babyl.-ass. pilakku) "axe." In reference to labi'atu, libatu "lion" (or "lioness") and urar. waina, ursemit. wainu "wine(stock)", Hommel himself admits the possibility that Greek kecov,

from which the other European lion names seem to have been borrowed, is a loanword mediated by the Phoenicians, and takes for the second, that Aryans as well as Semites get the same thing from the language of the Caucasian Aboriginal tribes (Georgians, Mingrelians) have survived

. The four previously cited Uri-Semitic super

can only be explained by the fact that in an "internal Asian" homeland common touches between the still

united Semites of one kind and the still united Aryans of another

and since the Semites "undoubtedly"> came from the interior of Asia, the Aryans must also have come from the interior of Asia.

may have come. Also due to the correspondence between

(The two Ural-Altaic cultural words cited also put it beyond doubt that the Aryans emigrated from the interior of Asia; this view is "definitively confirmed by the linguistic relationship between them and the Ural-Altaics, which is admittedly more distant, but still evident in too many traces."

On the other hand, it should be noted that the similarity of words in two unrelated language groups, such as Semitic and Aryan, does not justify the conclusion of proethnic intercourse between peoples, since the similarity can also be due to coincidence or to a borrowing that only took place in a later language period. As regards specifically the four cultural words cited by Hommel, which are supposed to represent the proethnic intercourse between the Urarians and the Ursemites, the two

words cited first ("bull," "horn") cannot be regarded as cultural words at all; and as regards the expressions cited for "gold" and "silver", goth. gulth, slav. zlato, sanskr. hiranya, baktr. zaranya, which all go back to a root ghar with the derived meaning "yellow", in no way justify the establishment of a Uartian gharta or gharata with the meaning "gold", since the expressions for "yellow" could be used quite independently in each individual language to denote gold - an assumption that is confirmed in particular by the differently formed Sanskrit hiranya and hakt, zaranya - just as the Semitic charüdu also goes back to a root with the meaning "yellow". Nor is the establishment of a Uraric sirapra "silver" on the basis of the known Gothic-Slavic-Lithic-Prussian word order justified. word series. In these two cases we must assert these linguistic reservations all the more resolutely, since not the slightest trace of gold or silver has yet been detected from that prehistoric cultural period - the so-called Neolithic period - which we can regard with certainty as Uartian. And even if the four words cited were to justify the assumption of proethnic intercourse between Urarians and Ursemites, it still does not follow that Inner Asia is the homeland of the Aryans: it is nothing less than certain that Inner Asia is to be regarded as the homeland of the Semites.

Even if it has to be admitted that raudha, rudha (not rauda, ruda, as Hommel puts it) was already the

meaning of "copper" (the "red"), it is nevertheless highly doubtful whether the same can be regarded as identical with the Sumerian *urud*, and what Hommel puts forward to justify this assumption - *urud* is said to have originated from *rud* through the nomina-forming a like *utud* offspring from *tud* - is not suitable to dispel these doubts. It is completely impossible to assume a linguistic relationship between the Aryans and the Ural-Altaians. And how would it have been possible that in Inner Asia, under the influence of the same climatic factors, three anthropologically and linguistically fundamentally different races, such as the Aryans, Semites and Turanians, could have emerged and preserved their special characteristics? And Hommel himself describes it as highly possible and probable that the original type of Aryans was blond and dolichocephalic.

Since the publication of my book, four works have appeared that deal specifically with the question of the origin of the Aryans. The first of these is the ingenious study by the ethnologist Fr. von Löher: "Ueber Alter, Herkunft und Verwandtschaft der Germanen" ("On the age, origin and relationship of the Germanic tribes", *Sitzungsberichte der philosophisch-philologischen und historischen Classe der k. b. Akademie der Wissenschaften zu München*. 1883. pp. 593-633), in which an attempt is made to prove that Germany is the homeland of the Aryans. This question was treated quite inadequately in the lecture by Dr. H. Brunnhof: "Ueber den Ursitz der Indogermanen" (Basel 1884). Although for him the "riddle of the Sphinx," who the Aryans were, has not yet been solved and he himself does not attempt to solve it, as indispensable as the answer to this question is in researching the origins of the Aryans, it is nevertheless clear to him that Armenia must be regarded as their homeland. The river names Kur and Araxes, which we frequently encounter on Aryan soil, are said to point to Armenia because the area enclosed by the Armenian rivers Kur and Araxes was a holy land according to ancient Persian belief; these two rivers were the prototypes of all other river names Kur and Araxes that recurred in the East and West. By identifying the thunderstorm demon *Drihfka*, mentioned in a passage of the *Rigveda*, with the people of the *Derbics*, he bases the assumption that the Sanskrit Indians came from the Caspian Sea on this identification.

The wandering legends of the Greeks, which tell us that they spread from west to east, do not give a true, but rather an "inverted reflection" of the actual migrations. Under his hand, the Scythians suddenly become "proto-Indo-Europeans" and the report by Diodorus of Sicily (IT. 43) on the migrations that the Scythians undertook from Araxes in all directions is "quite astonishingly strange news" to him, because it "contains no more and no less than an authentic history of the proto-Indo-Europeans handed down from the grayest antiquity." The primal memories of the Germanic tribes are also said to point to their origins in Armenia; after all, Nennius also lists an Armenon or Armenio among their progenitors. Dr. L. Wils (*Die Herkunft der Deutschen*. Karlsruhe 1885) has again attempted to prove that Europe, and Scandinavia in particular, is the homeland of the Aryans without presenting any new arguments, merely repeating the evidence already presented before him.

With regard to the attempt made by J. Fressl in his recently published book (*Die Skythen-Saken, die Urväter der Germanen*. München 1886) to prove by linguistic-historical means that the Scythian-Saken were primeval Germanic peoples and that the highlanders of the Scythian Imaus, today's Thian-schan, were the ancestral seat of all Aryans, it should only be briefly noted here that the attempt must be described as unsuccessful.

Finally, I note that R. F. Burton went to a quite unnecessary trouble when he pointed out (*Academy*, 1884, p. 32) that Latham was the first to put forward the theory that Europe, and not Asia, was to be regarded as the homeland of the Aryans. This fact had been expressly emphasized by both myself and Sayce in the review of my book, as well as by most German scholars who consider Europe to be the homeland of the Aryans. Incidentally, as can be seen from the letter published by H. M. Westropp in the *Academy* (1884, p. 32), it is no longer Latham but Lord Lytton (E. Bulwer) who must be described as the first in this century to put forward the view of the European origin of the Aryans - at least of the Hellenes. In his "Zanoni", published in 1842, the following can be found

XII

Passage: "The pure Greeks, the Hellenes, whose origin has bewildered your dreaming scholars, were of the same great family as the Norman tribe, born to be lords of the universe, and in no land on earth to become the hewers of wood. Even the dim traditions of the learned, which bring the sons of Hellas from the vast and undetermined territory of Northern Thrace to be the victors of the pastoral Pelasgi, and the founders of the line of demi-gods; which assign to a population bronzed beneath the suns of the West the blue-eyed Minerva and the yellow-haired Achilles (physical characteristics of the North); which introduce among a pastoral people warlike aristocracies and limited monarchies - the feudalism of the classic time; even these might serve to trace back the same regions whence in later times the Norman warriors broke on the dull and savage hordes of the Celt and became the Greeks of the Christian world." It can be seen from these lines that Lord Lytton not only regarded the Germanic-Scandinavian type as the actual Aryan type, but also Scandinavia as the homeland of the actual Aryans.

Vienna, July 1886.

The author,

CONTENTS.

I.

Views of Nordic prehistorians on the ethnic and anatomical character of the prehistoric inhabitants of Scandinavia -

II.

Physical type of the prehistoric inhabitants of Scandinavia and its correspondence with the physical type of the unmixed Aryans 7

III.

Prehistoric fauna and flora of Scandinavia and their correspondence with the fauna and flora linguistically developed for the original seat of the Aryans.....82

IV.

Culture of the Scandinavian Stone Age and its correspondence with the culture of the original Aryan people before its first separation 37

V.

Scandinavia is the center of the Aryan Race's distribution area 41

VI.

Refutation of the assumption that the Aryans came from Eastern Europe or Asia. - ' 44

VII.

Evidence of the Early Stone Age in Denmark as a transitional epoch between the Palaeolithic and Neolithic periods..... 52

VIII.

Proof of the identity of the Aryan type with the type of the Palaeolithic inhabitants of Central Europe.....65

ix.

The question of the hiatus between the Palaeolithic and the Neolithic Period.....	68
--	----

X.

Creation of the blonde Complexion.....	91
--	----

XI.

Acclimatization ability of the Aryan race.....	95
--	----

XII.

Stability or variability of the physical type?	125 i
--	-------

XIII.

Historical and mythological evidence for the origin of the Aryans from Scandinavia.....	142
Corrections and 'Supplements.....	181

**"All scientific work is nothing other than the
constant introduction of new material into general
laws.
Wilh. v. Humboldt.**

I.

Before I go into the merits of the question of the origin of the Aryans, it may first be of interest and use to become acquainted with the views of the Nordic researchers on the ethnic and anatomical character of the indigenous inhabitants of Scandinavia¹), in whom I see the original Aryan people. It will become apparent that their views diverge quite widely.

S. Nilsson, who deserves the credit of being the first among Swedish researchers to recognize the actual character of the numerous stone tools found in Sweden, first expressed the view that they originated from a wild tribe belonging to the Hyperborean race, which had eked out its existence from hunting and fishing in the same way as the present-day Greenlanders.²) This view was confirmed by the same author in his later work on the natives of the Scandinavian north

I) I expressly note that I use the name Scandinavia in the broader meaning of the "word, according to which it refers not only to the Scandinavian peninsula, but also to Denmark.

Nilsson, 8th, Skandinavisk Fauna. Lund 1835. Inledning L. Munch, the well-known historian of Norway, also considered it proven that the people of the Stone Age consisted of Lapps and Finns; only the people of the Bronze Age were an Aryan people, namely Celts. Munch, the Nordic-Germanic peoples, their oldest homelands, migrations and conditions. A translation of the first two sections of P. E. Munch Det norske Folks Historie by G. Fr. Claussen. Lübeck 1853. p. 5, 7.

not insignificantly modified. In this work, too, the first inhabitants of Scandinavia are declared to be Lapps, but it is noted that they were driven northwards in the Stone Age by invading Aryan peoples. After noting the great similarity between some brachycephalic skulls found in passage graves in Scandinavian countries and Lappish skulls, he remarks²): "Individual brachycephalic skulls have indeed been found in our stone graves; but it is no less certain that the people who erected them belonged to one of the dolichocephalic peoples who still inhabit the greater part of the country. We can conclude that the Lapps were much more widespread in the country in earlier times than they are now partly from the fact that skulls have sometimes been found in our peat bogs that seem to have belonged to this tribe, from various local names that are said to be of Lapp origin, to which we will return in more detail in one of the following chapters." In this (the sixth) chapter it says²): "The skulls described and illustrated in this chapter testify that two different tribes must have lived here in the Stone Age: brachycephalic and dolichocephalic, the former resembling the present-day Lapps. And we may assume for several reasons that the people of which the Lapps are a last remnant were spread in ancient times over Sweden. Denmark and ' even further afield. For on the one hand, skulls have been found further south in the earth and in bogs which undoubtedly belong to this tribe, and on the other hand, there are many words in the Danish and Swedish languages which bear the greatest resemblance to Lappish words of the same meaning, as has been demonstrated by thorough linguists such as Rask, Petersen, Christie and others. One could argue here that these words could just as easily have penetrated from Swedish into Lappish as from Lappish into Swedish, and that this mixture of languages certainly proves that the two peoples have been in contact, but in no way casts doubt on the fact that the Swedish language is the same as the Lappish language.

²) Nilsson, S., *das Steinalter oder die Ureinwohner des scandinavischen Nordens*. Translated from the manuscript of the third original edition by J. Mestorf. Hamburg 1868. p. 93.

*) Nilsson, a. a. 0. 146.

wherever the language is found mixed with Lappish words, Lapps were also resident. This is evidenced by Lapp place names in particular, in addition to the Lapp skulls found in the earth and in prehistoric graves. These have been found by experts in the Lapp language not only in Sweden and Norway, but also in countries further south, which Rask uses to support his assumption of a former Lapp population in Denmark. For example, he declares the word Samsö to be Lappish. The name of the island of Hven, formerly Hvedn, is derived from the Lappish Voudn, fjord, and the same is probably true of names such as: Falstr, Fjön, Hledra, Thotn in Norway, etc., which cannot be explained from Gothic roots. Trollhätta is a compound of the mocking name Troll and the Lappish word haüte = waterfall. On Dovrefjell, it was asserted that the local name Jerkin is Lappish and a reminder of the former Lappish population; in Upland, too, we have an inland lake called Jerken. The name Allvar on Oeland is derived from the Lappish words all = high and varn = mountain. In Skåne we are likely to find this name again in Allvarstorp (or Alfastorp), just as the syllable all is attached to many hills and mountains in Skåne (Allberg, Allhög etc.). Likewise, many Swedish place names are composed of the Lappish words Stock = sound and garn = lake."

After Nilsson has referred to the numerous legends of dwarves, mountain men and fiends in southern Skåne, in which the memory of Lapp families who once settled there is said to have been preserved, he concludes this discussion with the following words: "The small, weak people have therefore also¹ been driven out here in northern Europe* by a stronger, taller one, just as in North America the polar people of the 'New World, the Eskimo, whom we know as the oldest inhabitants of the country, have been displaced by a stronger and larger-built tribe, the copper-colored Indians."

H. Hildebrand's comments are essentially negative in character. "The general deeply ingrained view," writes the same¹), "is that stone culture is similar to a Lappish or

II Hildebrand, H., *Das heidnische Zeitalter in Schweden*. Translated from the second Swedish original edition by J. Mestorf. Hamburg 1873. p. 75.

Finnish tribe, the bronze culture a Celtic one. It would be most correct to reject these two assumptions altogether; in any case, one should be wary of saying something that is so impossible to prove."

"The idea of relating the lobes to the age of the stone was very natural. The same betrayed a rather low level of education of its representatives, and a people who are not yet much higher in culture, owned the land in the Lapps. They only live freely in the northernmost parts of the country; they alone could have lived further south in the old days and only later displaced to the north. Place names in various parts of the country seem to speak in favor of this, and A more distant support was found in the fact that several of the Human skulls unearthed from Stone Age graves show a striking showed to lobed skulls."

"However, the place names have no probative value because they are ver- allow for different interpretations. Just as little decisive is the craniology, because it has become apparent that by far not all skulls from Stone Age graves are of the lobe type. Swaying The above view is supported by the following an important, positive reason against it. The graves of the Stone Age, the enormous stone chambers and the even more enormous Corridor buildings, indeed the entire culture of that period had its main is by no means located in the far north; indeed, it points to the south. areas, across the Baltic Sea and from residential districts there even further westwards at that time. We have to deal with the out saying that the Nordic stone age was unique to one people, whose name history has not preserved for us, but which is true- ' apparently did not belong to the circle of Indo-European peoples, because the Indo-Europeans, as their language reveals, had already been living in the migration in Europe knew metals."

Montelius speaks more authoritatively about our question in the German . see translation of the second edition of his book on the Cul- . of Sweden in pre-Christian times. "Still at the end of the Stone Age," he says there.¹), "the inhabitants of the north were not

¹) Montelius, O., Die Cultur Schwedens in vorchristlicher Zeit. Translated by Appel from the second edition revised by the author. Berlin 1885.8.85*

They were not only completely unfamiliar with metals - even gold - but also completely unfamiliar with the art of writing. We therefore have no monuments of the language of the Stone Age people that could tell us what kind of people called Sweden their homeland. Attempts have been made to answer this question with the help of skulls found in Stone Age graves. Some of these are very similar to the skulls of the Lapps, but most of them are very similar to those of the Swedes living today, which already seems to indicate a mixture of two different tribes for this remote time." These remarks are supplemented as follows in the above-mentioned German translation, which has undergone several changes and additions by the author, and which the second edition (1878) of the Swedish original does not contain: "This circumstance, as well as the other, that no great immigration of a new people into Sweden seems to have taken place since the close of the Stone Age, makes it highly probable that the ancestors of the Swedes of to-day - the people whose branches are commonly grouped under the name of Swedes and Göten - have dwelt in the same country since the beginning of the younger Stone Age. The smaller number of skulls of a non-Scandinavian type found in the graves of the Stone Age undoubtedly come from the people who lived there before the Germanic tribes immigrated."

Worsaae firmly opposes the view that Lapps or Finns were the original inhabitants of the southern parts of Scandinavia. However, Worsaae expects further research to shed more light on which people the inhabitants of Denmark belonged to during the older Stone Age (the time of the so called Kjökenmøddinge) and which people the inhabitants of Scandinavia belonged to during the younger Stone Age - which he considers to be a different people from the former, who only immigrated later. He remarks on the first question as follows¹): "There is no evidence of any traffic during the Early Stone Age between the Lapps and Finns in the northernmost highlands of the Scandinavian north and the inhabitants of the southernmost, more easily accessible plains.

*) Worsaae, J. J. A., *Die Vorgeschichte des Nordens nach gleichzeitigen Denkmälern*. Translated into German by J. Mestorf. Hamburg 1878. p. 24.

cannot really be said. It is more likely that the entire Scandinavian peninsula, with the exception of the open shores of the Kattegat and the Baltic Sea, was still completely uninhabited at that time. The individual pieces of slate found in more southerly regions, especially towards the south-east, which perhaps only show a coincidental resemblance to certain Finnish stone artifacts, cannot serve as evidence that Lapps and Finns migrated so early from the east, i.e. from northern Asia via northern Russia, to the northernmost provinces of Sweden and Norway."

"And even if, against all probability, this should be confirmed, it is nevertheless certain that the Lapps and Finns are a completely different people than the original inhabitants of Denmark on the Kattegat and the outermost coastal region of Sweden, from which they were generally far separated by inhospitable mountains, partly covered with glaciers, wild streams and lakes, immense, then impenetrable forests. The oldest stone and bone tools found in the far north, which bear a striking resemblance to the Lappish and Finnish stone artefacts from Finland, northern Russia and northern Asia, are also quite different in terms of material and shape from the stone artefacts of the older period in southern Scandinavia. Rather, they form a separate so-called Arctic group in the European Stone Age culture."

"What kind of people it was that, by showing the way to more highly developed tribes, laid the actual foundation for the colonization of Denmark and then the other northern countries is just as little known as the time of its arrival, its union and finally its displacement or fusion with a superior ruling tribe. Answers to these questions cannot be expected until more solid starting points have been obtained from the mother country in the west by means of comparative research."

And in. With regard to the inhabitants of Scandinavia during the Later Stone Age, he writes¹): "Comparative studies of the

¹) Worsaae, op. cit. 30.

The unburnt corpses buried in the stone graves have, of course, yet to show to which race this stronger people belongs; but the mixed forms and different types of skulls show that in this respect there is no particular difference between the inhabitants of Denmark at that time and those of today and the other Nordic countries."

II.

Before the thesis that Scandinavia is the home of the Aryans can be explained in more detail, three preliminary questions must first be answered: Firstly, can the oldest inhabitants of Scandinavia be regarded with certainty as Aryans?

Secondly, does the picture that linguistic paleontology has drawn of the culture of the Aryans during the period preceding their first separation resemble the picture that archaeology draws of the oldest culture of Scandinavia on the basis of paleontological and archaeological finds, or is it different from it?

Thirdly, is the fauna and flora which, according to the evidence of language, surrounded the Aryans in their original habitat identical with the prehistoric fauna and flora of Scandinavia, or are there differences in this respect?

It is clear that if these three questions cannot be answered in the affirmative with complete certainty, the Scandinavian hypothesis deserves no further consideration from the outset. And we have seen from the above-mentioned views of the Scandinavian prehistorians that these questions have by no means always been answered in a manner favorable to the hypothesis.

In this study we have to start from Sweden, where the anthropological and archaeological conditions are much simpler than in Denmark. As far as the anthropological, especially the craniological conditions of the country are concerned, as can be seen from G. Retzius' compilation¹), up to the year 1879 in

*) Svenska sällskapet för antropologi och geografi. Antropologiska sektionens tidskrift. I. No. 3.

Sweden, in graves belonging to the pure Stone Age, about 40 more or less complete skulls have been found, namely

in the two passage graves at Knaggegård, Luttra parish, and Lockegård, Synneräl parish, in West Gothland, where the excavations were led by B. E. Hildebrand, P. A. Säve and Frh. v. Düben (1864), about.....20 skulls

by G. Retzius and O. Montelius in one course
grave at Karleby in West Gothland in 18725 "

of the same in a stone box grave near Backa
in West Gothland in 1875..... 5 "

shortly afterwards in a ditch near Karleby " "

by Frh. v. Kurck in a stone grave - in
Schonen..... "

by H. Hildebrand in a ditch in Skåne
(the most complete preserved copy), 42 skulls.

It can be seen from this that the craniological material required for the determination of the races of the oldest inhabitants of Sweden is available in sufficient quantity. Already on the basis of the first finds made in 1864, Frh. v. Düben was able to explain that the assumption of A. Retzius, his famous predecessor in the professorship of anatomy in Stockholm, that the population of Europe in the Stone Age was brachycephalic, could no longer be valid for Scandinavia, just as its untenability had already been proven earlier for Western Europe (France and Great Britain) on the basis of similar finds of dolichocephalic skulls^{III}). These, as well as the later skull finds mentioned above, led to the assumption that Sweden was inhabited by a predominantly dolichocephalic population during the Stone Age. According to the investigations carried out by de Quatrefages and Hamy in the anthropological collections of Stockholm and Lund, the brachycephalic (Lappish) race forms only the tenth part (¹/₁₀) of the population of Sweden whose remains have been preserved in the megalithic burial sites²).

III Bulletins de la Societe d'anthropologie de Paris. 1^e s^er. VI. 168.
) De Quatrefages et Hamy, Crania ethnica 142.

To which race do these prehistoric dolichocephalic inhabitants of Sweden belong? According to Frh. v. Düben, to the same race to which the Swedes of today belong. In his lecture on the craniological characters of prehistoric man in Sweden, given at the international anthropologists' congress in Stockholm, he expressed his conviction, gained through the study of burial skulls, that the skulls from the graves of the Stone Age, the Bronze Age and the Iron Age represent the same type. After first giving a detailed description of the modern Swedish skull and stating that Svears and Goths belong to one and the same race, he explicitly states in the further course of his argument: " . . . j'ai trouv  la m me forme de cr nes dans les tombeaux pr historiques, qu'ils appartenissent   F ge de la pierre, du bronze ou du fer. Certainly, we don't have the three-dimensional materials, only about 50 cranes; but Mr. Broca said that a number of 20 is a reasonable number to determine the carac- t res. Vous avez ou vous pouvez voir ces mat riaux dans le Mus e de l'Institut Carolin, et des  chantillons dans l'exposition du baron Kurck, l  bas. In addition, while looking at the tombeaux, I saw a large mass of cranes, currently r duites in poussier, but the shape was the same, which we were able to observe on the spot."

"En examinant ces cr nes, vous trouverez certainement qu'ils sont encore plus longs que ceux des Su dois actuels: l'indice c pha- lique est 74,3; ils sont plus anguleux; la capacit  en est inf rieure etc.. ²⁾ Cependant, il ne me semble pas que nous ayons l  des signes caract ristiques de races diff res, mais seulement d'un d veloppement inf rieur   celui des cr nes du temps actuel. Among these 50 cr nes, - a few-uns except s, of which I shall speak shortly, - it is impossible to discern the types diff rents, pas plus qu'entre les cr nes modern-

0 Congr s international d'anthropologie et d'arch ologie pr historiques. Compte rendu de la 7  session, Stockholm, 1874. Stockholm 1876. II. 687-692.

^{a)} According to the description of the skulls found in the passage graves at Knaggeg rd and Lockeg rd (West Gothland) published by Frh. v. D ben in Vol. I, p. 279 of the *Antiquarisk tidskrift f r Sverige*, the forehead of most of them is narrow, the arch, the width of the occipital protuberance, the zygomatic arch and the protruding occiput similar to those of the Swedes of today, but they differ from them in the position of the face and the size of the

nes. If you have noticed for a moment a type well characterized by one or two cranes, the distinct characteristics will slip through your fingers by considering and comparing a larger number of parts and details, and you will soon recognize, among these old cranes, the cranes of the current population. And this is not only the case for the shape of the crane, but also for the shape of the whole crane, because I have a lot of material to compare each ear, the hybrid ear in particular."

On the question of whether these deviations should perhaps be regarded as signs of a mixed race, Düben expresses himself as follows: "C'est une question singulièrement âpineuse cette question des cranes des races mixtes. For my part, I can't say at the moment; I have never examined the forms of intermarriage. Mais, j'ai vu en grand nombre de descendants de mariages contractés entre des Suddois, des Finnois et des Lapons^ - trois races bien distinctes - > , vous le savez tous. Eh bien! dans ces descendants de mariages

mixtes, je n'ai jamais vu de formes crâniennes intermédiaires, pas même dans la 2^{ème} ou la 3^{ème} génération: ils ont toujours été ou Suddois, ou Finnois, ou Lapons. On y distingue un atavisme continu, une lutte atavique, si vous me permettez cette expression, mais Tune ou l'autre des races est prédominante. Vous pouvez en voir des exemples dans le musée. Or, these forms of atavism do not occur either in the current population or in the cranes of the tombs, and this is precisely one of the reasons why I have attributed these populations to a single source, always accepting that fusions may have taken place on several occasions. Moreover, if there had been a mixture of races, I do not believe that the differences are so completely effective.

dant ce court espace de temps, 1800 ans environ, qui s'est écoulé depuis l'arrivée des Svears, ou pendant ces 3-4000 ans, l'antiquité la plus récente que l'on puisse attribuer aux dolmens de la Suède. Les peuples

eyebrow arches are easily distinguished; in most, these eyebrow arches are strongly protruding, massive and high. The face is strongly prognathic in some; the alveolar margin of the upper jaw is strongly protruding. In 12 of the skulls brought to light from the passage graves mentioned above, whose proportions Düben was able to measure with certainty, the length to width ratio is 1000:731.45, while in the Swedish people now living the length to width ratio is 1000:771.87.

tures des monuments de l'Egypte nous montrent que les caracteres des races ne s'effacent pas si promptement.⁴

Düben dedicates the following remarks to the prehistoric brachycephalic skulls: "Parmi les cent crânes que j'ai examinés du Dänemark et de la Suede, il s'en trouve une dizaine de cette (brachycephale) forme, dont 5 du Dänemark et le reste de la Suede, depuis la Scanie jusqu'en Vestergötlande. They are all 6 to 6 exhumés des tombeaux de l'âge de la pierre. These crânes are très arrondis, très-courts, d'un indice allant jusqu'à 84,2. Grâce à cette forme, ils contrastent au primordial et fortement avec les autres crânes, qui sont dolichocéphales, et évidemment ils appartiennent à une race différente. These are the cranes that MM. Nilsson and A. Retzius attribuent aux Lapons; et certainement quelques-uns de ces crânes ressemblent tellement à ceux des Lapons, que nos connaissances crâniologiques actuelles ne suffisent pas pour y constater de différences. However, other facts show that the Lapons immigrated from the north of the Baltic and that they never lived in the Scandinavian peninsula below the 62°. For this reason, it is necessary to wait for the latest data before deciding on this point. For the rest, if these are the Lapons, it may well be that they arrived as slaves or as friends of the Dolichocéphale race from the other coast of the Baltics, or that there were intimate relations between the Lapons and the Gothic races at the time."

From this authoritative explanation it follows that the prehistoric dolichocephalic inhabitants of Sweden in the Stone Age belong to the same race as the present inhabitants of the country - apart from the Lapps and Finns, of course - and that the skull type has not undergone any significant change from the oldest times to the present. If it can be shown that we have to regard the type of the Swedes of today, which in turn is identical with the Germanic type of row graves, as the actual Aryan type, then, on the basis of the identity of the present and the prehistoric type of skull established by Frh. v. Düben, we are also entitled to declare the prehistoric inhabitants of the country to be Aryans - and not only in the ethnic, but also in the anthropological sense.

As I demonstrated in the second section of my above-mentioned book^x), of the six types demonstrable within the Aryan world of languages and peoples - the Indian, Iranian, Slavic, the two Celtic (the dark brachycephalic and the dark dolichocephalic [Iberian]) and the Germanic-Scandinavian type - only the latter can be regarded as the actual Aryan type. It is this type alone which can be traced in all countries in which, according to the evidence of history or comparative linguistics or archaeology, Aryans once lived or still live, while the distribution of the other types - with the exception of the one Celtic (brachycephalic) and the Slavic type identical with the latter - is always restricted to a relatively small part within the great Aryan world of languages and peoples, and outside this local area of distribution no traces of their former presence can be found either in the present or in the past. It is precisely the peoples who belong to these types who are the descendants of those pre-Aryan populations who were subjugated by the pre-Dijing Aryan conquerors and forced to adopt their language. It is self-evident that, if the proof is correct that we can only see the actual Aryan type in the Germanic-Scandinavian (blond dolichocephalic) type, the homeland of the Aryans can only be sought in Europe, and specifically in northern Europe, where the blond race has had its headquarters from the earliest times to the present. ²⁾

Although none of the arguments I have put forward in favor of this thesis has been refuted, its universal acceptance is opposed by a theory, particularly widespread in England and France and supported^x by important authorities, which is inferior to the theory I and others advocate.

¹⁾ Penka, Orig. ariac. 8-44.

²⁾ In his characterization of his 5 human races, Linne describes the European one in the following way:

Europaeus. *ß. albus, sanguineus, torosus.*

Pilis flavescentibus prolaxis. Oculis caeruleis.

On the other hand, the (homo) asiaticus. *7. luridus, melancholicus, rigidus.*

Pilis nigricantibus. Oculis fuscis.

(Systema Naturae. 13. ed. I. 29.)

This circumstance determines me to go into this question in more detail. As is well known, Dr. Thurnam has attempted to prove that it is not the dolichocephalic skulls of the Long barrows belonging to the Stone Age, but the brachycephalic and subbrachycephalic skulls of the Round barrows, in which the first traces of the use of bronze can be seen, that are the skulls of the "Celts" (Britons and Gauls), while the former are of Iberian origin¹): "There are, then," he writes, "two distinct cranial types from the barrows; one at least of which must be Celtic. To assume that both are Celtic, can scarcely be reconciled with the idea of permanence of type (if such be admitted), or with that of ethnic unity. The Cymric and Gaelic forms of the Celtic language are equally believed to be Indo-European; and, according to the opinion generally received by such distinguished anthropologists as Retzius and von Baer, the Indo-European cranial type is dolichocephalic, and the pre-Celtic, allophylian type, brachycephalic. The evidence from the barrows, however, is at variance with this view. The brachycephalic and subbrachycephalic skulls from the round barrows must be regarded as those of the bronze-using Celts; and the dolichocephalic skulls from the chambered long-barrows, as those of a pre-Celtic stone-using people. Such seems to have been the Order of succession of the two races in Britain; and such, it is believed, was also the Order of their succession in Gaul."²)

How did Thurnam arrive at this view, by which he placed himself in the most decisive opposition to the theory of A. Retzius and Baer? Firstly, through the previously widespread opinion that the Aryans already knew bronze in their supposed Asian homeland and brought it from there to Europe; and it was precisely the Round barrows with their brachycephalic skulls where the first traces of the use of bronze tools and weapons were found. Secondly, by the surprising similarity he believed to have found between the dolichocephalic skulls of the Long barrows and the Iberian (Basque) skulls. "Düring

*) Thurnam, J., On the two principal forms of ancient British and Gaulish skulls. (Memoirs read before the Anthropological Society of London. I. 120-168 and 459-519); Further researches and observations on the two principal forms of ancient British skulls. (Memoirs etc. III. 41-80).

²) op. cit. I. 128.

the last summer, "sagt er," I had the advantage of examining the series of sixty Basque skulls, lately added to the collection of the Anthropological Society of Paris. I was at once struck with their great resemblance for the dolichocephalic skulls from the long barrows of this country- and this impression was much confirmed by the perusal of the two memoirs on these skulls by M. P. Broca, so rich in details necessary for the comparison before us."

It is not difficult to prove the untenability of Thurnam's theory. First of all, it is a completely unfounded opinion that the Aryans were already familiar with the use of bronze in their homeland. In addition, many round barrows containing brachycephalic skulls did not show the slightest trace of bronze, just as H. Martin denies that the long barrows are older than the round barrows.²⁾ The following objection is even more serious. As Thurnam himself admits, this brachycephalic type of the ancient "Celts" is identical with the type of the Turanian peoples of Europe and Asia. So how is it that this Turanian type became the type of the Aryan "Celts"? Thurnam himself disengaged from this

¹⁾ op. cit. I. 160.

²⁾ Thurnam's well-known statement (op. cit. I. 158): "Long barrows long skulls; Round barrows round or short skulls" cannot be upheld either. C. Carter Blake, Note on the Skulls found in the Round Barrows of the South of England (Memoirs read before the Anthropological Society of London. III. 114-119) comes to the conclusion: "1. That the state of materials at our disposal precludes any generalization as to the prevalence of a brachycephalic type of skull in the round barrows of the South of England. 2. that a much larger series of skulls from the round as well as from the long barrows, must be measured before we can arrive at any conclusion as to the cranial modulus." For the time being, he is content to point out that the dolichocephalic skulls found are consistent with the Hough type. Mortimer found two very different skull types in the Yorkshire round barrows: of the skulls found (from 7 round barrows belonging to the Stone Age) 5 are dolichocephalic (with the indices 72, 72, 71, 75 and 70) and 5 are brachycephalic (with the indices 85, 94, 90, 80 and 79), proof that brachycephalic people lived alongside dolichocephalic people in England as early as the Stone Age. The results of Mortimer's investigations also contradict Thurnam's findings in another respect. The latter calculated the average size of the brachycephals at 1.752 m and the size of the dolichocephals at 1.676 m according to the length of the thigh bone, whereas Mortimer's brachycephals were 1.651 m tall and his dolichocephals 1.765 m tall. The first figure corresponds to the average height of the French, while the second is only

The inner contradiction in his theory was not resolved, but he saw himself in a position to solve it satisfactorily. "That the brachy- cephalic skull-form of the bronze-period in Britain was introduced into this island from Gall," he says, "and was the type of the Celtic skull, at least that of the dominant race, appears to me to be proved. What may have been the origin of this "Turanian" type of skull, and how it became that of a Celtic-speaking and so-called Indo-European people; or conversely, how the Celtic became the language of a people with such a skullform; are important questions for the investigation of the anthropologists of Europa." "Meanwhile the idea of a connection between the ancient Celtic brachycephalic type, and that of the modern Mongolian, or so-called Turanian peoples of Asia, cannot be overlooked; and remains for explanation, when the actual facts shall have been better ascertained that they are at present." *)

The difficulties do not end there. Where did the blond element, which is found within the Welsh as well as within the Irish and Scottish populations,²) come from? Both the Iberians and the Turanian peoples of Europe and Asia are of dark complexion in their unmixed state. Anglo-Saxon

The fact that the average size of Scandinavians comes reasonably close to that of Iberians is proof that not all of England's dolichocephalians from the Stone Age can be Iberians. This conclusion can also be drawn from the skulls themselves. Judging from the accompanying illustration, the dolichocephalic skull type of these round barrows is none other than the well-known Hohberg type of His and Rüttimeyer, which in turn is identical with the Eckers type of row barrow. Cf. Mortimer in Journal of the Anthropological Institute of Great Britain and Ireland. VI. 328.

*) op. cit. I. 166 and 167.

²) The oldest surviving Irish poetry depicts the Gaels as a fair, yellow-haired people. A poetic chronicle, which O'Connor assumes to be the oldest historical poem in the Gaelic language, addresses the people in this way:

A colca Albain uile,

A sluagh feta folt-buidhe, Vos docti Albani omnes Vos exercitus peritorum, flavo-comatoruin.

This is said to have been addressed to the mountain Scots at the court of Malcolm III in 1057. Pr i c h a r d, J. C., Naturgeschichte des Menschengeschlechtes. Edited from the third edition of the English original by R. Wagner and Fr. Will. III. 1. Leipzig 1842. p. 220, where other evidence of the occurrence of the blond complexion among the "Celts" of Great Britain and Ireland is also cited.

influence can only be used to explain this phenomenon for a few districts, not for the whole Celtic area. Thurnam, however, did not even consider this obvious objection.

In view of all these difficulties, it does not seem superfluous to raise the question of whether all the dolichocephalic skulls found in the Long Barrows really show the Iberian type, and whether perhaps the type that we claim to be Aryan can also be proven. This is indeed the case and it is Thurnam himself who bears witness to this. "There are," are his own words, "certain skulls of perhaps varying antiquity, which have been exhumed in different parts of Europe, with which the long-barrows skulls seem to have more in common than with the skulls of any modern European people. Such are the grave-row (cemetery) skulls of Professor Ecker (breadth-index of 18,71³); the Hohberg skulls of His and Rütli-mayer (breadth-index of 13,70⁷), the so-called Apostle skulls of C. Vogt; and some of the so-called Apostle skulls of our own Huxley."¹) Thurnam, however, refuses to compare the dolichocephalic skulls of the Long barrows with this type, for no other reason than that he is convinced that none of the skulls of this type found in Switzerland and Germany can be attributed to the Stone Age, a view that has long been refuted by numerous finds of skulls of this type, not only in Germany and Switzerland, but also in other European countries in burial sites that undoubtedly belong to the Stone Age.

Thurnam united all dolichocephalic skulls, which certainly belong to two different types - the Iberian and the row cemetery type - into one group, instead of dividing them into two groups, for this whole group on the basis of those skulls that resemble the Iberian, Iberian origin, he had no choice but to declare the brachycephalic (Turanian) type as the "Celtic" one, since the Iberian skull form belongs to peoples outside the Aryan language and ethnic group (Iberians, Berbers). In truth, however

*) op. cit. III. 63.

neither the one nor the other type can be regarded as Aryan and it is only the skull form of the row grave type found in both the Long barrows and the Round barrows that we have to regard as the skull form of the actual Britons.

The Germanic-Scandinavian type is found not only in Great Britain and Ireland, and indeed as early as the Stone Age, but also in the other countries once inhabited by "Celts" (Gauls). After Roget de Belloguet established the identity of the Gallo-British type with the Germanic type on the basis of historical and archaeological evidence,¹) this identity has now also been established from the craniological side. The authors of the *Crania ethnica* remark on this: "L'identite ethnique des Galates des tumulus et des Germains, des Francs etc. des cinetieres de la p'diode merovingienne, signalde par quelques archeologues, p. M. Al. Bertrand en particulier, a dtd rdcemment mise en evidence de la fa\$on la plus complete, gr\$ce au concours de l'anthropologie. By comparing the observations that he had made on the remains of the great tumulus bourguignons with those that he had collected for a long time in the French cemeteries in the north of France, Fun de'nous s'est trouvd frappd des ressemblances etroites que prdsentaient les deux sdries et s'est cru en droit de conclure ala communaute d'ori- gine des Galates de Bourgogne et des Francs Saliens/ Ripuaires (Hamy)."

"Les nombreux cr\$nes merovingiens recueillis en Picardie, en Normandie, dans l'Ile de France, la Champagne, la Lorraine, l'Alsace, la Bourgogne, la Suisse etc. affectent exa ctem ent les m dmes formes que les cr\$nes galates. Les cr\$nes anglo-saxons sont identiqus a ceux des Francs, des Burgundes etc.. On connait des pidces toutes semblables provenant du Wurtemberg, des bords du Rhin, de la Saxe et de la Thuringe, du Hannovre, du Mecklemburg et du Holstein, des bassins de FOder et de la Weichsel, de la Pomeranie et du duchd de Posen." ²)

*) Roget, b^{on} de Belloguet, *Ethnogdnie gauloise*. Types gaulois et celto-bretons. Paris 1861. p. 63-151.

²) De Quatrefages et Hamy, *Crania ethnica* 498. That the blond Gauls were dolichocephalic has already been shown earlier by W. Edwards, *Fragment d'un mdmoire sur les Gaels*. *Memoires de la Socidtd ethnologique*. II. 13 sequ. and Broca, *Recherches sur l'ethnologie de la France et nouveiles Penka. The origin of the Aryans.*

Of the numerous testimonies of ancient writers that the Gauls (Fakaxat) were blond, blue-eyed, white-skinned and tall, which has led many ethnologists both old and new (Holtzmann, Rónard, D'Omalius d'Halloy and others) to declare the ancient Gauls ("Celts") to be Germanic, I will cite only two as particularly weighty, the testimony of Strabo and that of Ammianus Marcellinus. The former explicitly states of the Gauls that they are similar (äp,cpspev;) and related to the Germanic tribes²)

and that the Germanic tribes differ only slightly from the "Celtic tribe" Ttp TS 7tksova|i(p rrfî dypioT^TOC xal roo jAsysfiooc xal rrfî Sav&OTTjro?, Takka 6s Tüaparckifatot xal pop? afc xal rj&eai xal Btots ö'vrsc, otbos sipTpcal|sv TOOS Kekroö? -²) The testimony of the latter reads: "Celsioris staturae et candidi paene Galli sunt omnes, et rutili luminum- que torvitae terribiles".³)

The Gallic ("Celtic") population of southern Germany and Switzerland, the remains of which are found in the burial mounds and pile-dwelling sites, are also of the same type. In these burial mounds and pile-dwelling sites, some of which belong to the Stone Age, there are not only short skulls, which are no different from the short skulls of the present-day population of Baden, Württemberg, Bavaria and Switzerland, but also long skulls, of which Kollmann, after giving a clear account of their occurrence in the burial mounds of Baden, Württemberg and Bavaria, says: "It is now recognized from several sides that the long forms resemble those of the row graves; according to the state of our present knowledge we may say that the long skulls of the barrows are Germanic like those of the row graves."⁴) And the recherches sur l'anthropologie de la France. Mémoires de la Société d'anthropologie de Paris. I. 1-56 et II. 147-200. La race celtique ancienne et moderne. Revue d'anthropologie. I^{re} ser. II. 577-628.

¹) Strabo, p. 196.

²) Strabo, p. 290.

³) Ammianus Marcellinus XV. 11.

⁴) Kollmann, J., Altgermanische Gräber in der Umgebung des Starnberger-Sees. Munich 1874. p. 314. from the reports of the mathematical-physical class of the k. b. Academy of Sciences. 1873 The fact that these skulls cannot be regarded as specifically Germanic is evident from the archaeological content of the graves, which points to the pre-Roman and pre-Germanic period. The fact that in southern Germany and the neighboring

Gross generally characterizes pile dwellers in the following way: "Cette race lacustre, a on juger de l'ensemble des crânes qui ont recueillis, se caracterise par sa forme nettement dolicho- cepbale - botte crânienne allong^e et ovale, occiput pyramidal bien dévelöppd, cröte sagittale bien marqude - qui se rapproche davantage du type de Hohberg que du type de Sion".²⁾

The same type can also be found among the "Celts" of the eastern Alpine countries. For example, the old Hallstadt skulls, which are also generally attributed to a "Celtic" people, are also predominantly dolichocephalic according to Zuckerkandi's investigations.²⁾

Many anthropologists consider not only this blond dolichocephalic type ("la race kymrique" Broca's), but also the dark brachycephalic type ("la race celtique" Broca's) to be Aryan. It should first be noted that the latter type currently occupies a much larger area within the Aryan linguistic and ethnic world than the former: it includes a large part of the population of France, where it is especially

southern and eastern countries just as the Gauls (Celts) once lived in France, history teaches (Tacitus, Germ. 28: "Inter Hercyniam silvam Rhenumque et Moenum amnes Helvetii, ulteriora Boii, Uallica utraque gens, tenuere; manet adhuc Boihaemi nomen significatque loci veterem memo- riam quamvis mutatis cultoribus"; Strabo, p. 293, 296, 304, 313 explicitly calls the Bojer, Taurisker and Skordisker Gallic peoples) and the testimony of history is further confirmed by the surviving mountain, river and place names, of which the latter, in particular those composed of bona-, briga-, dunum-, durum-, magus- are undoubtedly of "Celtic" origin.

Gross, V., Les Protohelv&tes. Cf. also Vircho^fr in the preface to this work on p. VI, as well as his lecture on skulls and tools from the pile dwellings of Auvernier, Sütz and Möringen (Lake Neuchâtel and Lake Biel) in the Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, 1877, pp. 126-141 and Th. Studer, Mittheilungen über die Menschenschädel der Pfahlbauer des Bieler Sees in den Mittheilungen der Naturforschenden Gesellschaft in Bern aus dem J. 1884, p. 7-26, who, however, only wants to assign the dolichocephalic skulls to the Bronze Age, although they already appear in sites that undoubtedly belong to the Stone Age. However, the arguments put forward in favor of this assumption, which are based on changes in the domestic animal fauna, cannot be considered valid.

*) Mittheilungen der Anthropologischen Gesellschaft in Wien. XIII. 97.

It occurs in large numbers in Brittany, Auvergne and Savoy, in Switzerland, where it appears least mixed in the two cantons of Graubünden and Ticino, in southern Germany, northern Italy (Piedmont), all Slavic countries, Rumania and is also represented in Asia by the Iranian Galchas. But in the other countries of Europe, too, it can be traced back to the end of the Quaternary period as a more or less strong component of the population. The anthropological kinship of all these peoples, in whom the above-mentioned type is prevalent ("des Celtes d'orient et d'occident"), is now expressly acknowledged by the most eminent German, French and English anthropologists.

The majority of those who regard both types as Aryan leave undiscussed the question of how they conceive of their relationship to each other, whether the original Aryan people was already a mixture of both types, or whether one type developed from the other in the course of time through the influence of climate, way of life, etc.) Whatever views they may have formed, it is certain that neither one nor the other is correct.¹⁾ Whatever views they may have formed, it is certain that neither one nor the other is correct. To assume that a primitive people consisted of two different races is to expect nature to transform one and the same basic form in different directions at the same time and under the same external circumstances, an assumption whose absurdity is obvious. In fact, the brachycephalic type only appears in Europe in the post-Quaternary pre-Neolithic period (the period of the so-called hiatus) and immediately with all its characteristic features, while the dolichocephalic type developed in Central Europe until well into the Quaternary period and

¹⁾ - Virchow, who considers both the Germanic-Scandinavian (serial burial) type and the dark brachycephalic type to be Aryan types, declares it inconceivable that one type originated from the other, but believes that both originally existed side by side and later pushed through each other. Report on the XIV General Assembly of the German Anthropological Society in Trier. *Correspondenz-Blatt der deutschen Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*. 1883. 8.144. H. von Höl der also considers it a groundless assumption that the blond dolichocephalic type became the dark brachycephalic type through external influences. *Archiv für Anthropologie*. XIII Supplement. S. 50.

can be traced as the sole representative of man in general. But the second assumption, that a differentiation of the basic type took place after the Aryans diverged, is also refuted by the facts. It is not even necessary to go beyond the circle of Aryan peoples for this refutation. If, as is supposed, residence in the northern zone had brought about the transformation of the dark complexion into the light one, it would be inexplicable that the dark Welsh, Irish and High Scots, whose ancestors entered the soil of Great Britain and Ireland soon after the close of the Quaternary period, should have remained dark. But also their anatomical characteristics do not differ in any respect from the anatomical characteristics of their ancestors, as the work of English anthropologists has shown.^{IV}) Furthermore, the local distribution of brachycephali in Bavaria in particular has led to the view that the nature of the place of residence has a significant influence on the shape of the skull and, in particular, that the change in the shape of the skull in southern Germany - from the dolichocephaly of the serial burial period to the brachycephaly of the present - is at least partly due to the altitude (J. Ranke). If this theory were correct, it would have to be applicable to all analogous phenomena. Now, however, it turns out that, while in mountainous Norway, for example, the shape of the skull has remained unchanged from the earliest times to the present day, in the flat Russian-Polish countries we are confronted with the same phenomenon as in southern Germany, namely that the almost exclusive dolichocephaly of the Kurgan population is contrasted with the almost exclusive brachycephaly of the present population. We thus see that the factor assumed to explain the change in the shape of the skull had no effect at all in the one case and that in the other

IV This is true not only of the dark brachycephalic (Turanian) type, but also of the dark dolichocephalic (Iberian) type, which is still quite pure in some parts of England (especially in South Wales) and Ireland (especially in the west), so that English travelers were not a little surprised at the similarity they found between the Spanish, especially the Castilians, and the Basques on the one hand and the Irish on the other. Some evidence of this is given by Wentworth Webster in the *Journal of the Anthropological Institute of Great Britain and Ireland*. V. 8.

If the same phenomenon occurred without it, this is proof that the effect attributed to this factor is not at all attributable to it. ²⁾

If, therefore, it can be shown that the factors to whose effect the alleged change in coloring and skull shape has been attributed do not have such an effect, at least for the time under consideration for our question - the time from the beginning of the Neolithic period to the present - it can also be shown that both types already existed side by side in the first period of the post-Quaternary period and have been preserved from that time to the present, ²⁾ it follows of itself from this that no other assumption remains to explain the fact that both people of the one type and people of the other type speak only one language at present than that at some time the ancestors of the people belonging to the one type voluntarily or compulsorily adopted the Aryan language from the ancestors of the people belonging to the other type and in this way lost their special ethno-linguistic character. Was it the small dark brachycephals who learned the Aryan language from the tall blond dolichocephals, or was the reverse the case? After the earlier allusions, it is obvious that the decision on this question also includes the decision on the question of the original homeland of the Aryans. If the dark brachycephalic type is the actual Aryan type, there can be no doubt about it.

¹⁾ This question is dealt with in more detail in Section XII. Section of these studies, to which reference is hereby made.

²⁾ Kollmann remarks in his work on the skull shapes found in Switzerland (*Verhandlungen der Naturforschenden Gesellschaft in Basel*. VIT. 659): "The human skulls of the pile-dwelling population are identical with those of later centuries and these again with those of today. The Central European human races are always already finished where we meet them, they are not just emerging. Languages and customs, forms of government and peoples have changed, but the basic stock, the races, have always remained the same in terms of the anatomical characteristics of their bodies. These sentences also apply to all Central European countries. As far as we can go back into the past on the basis of osteological material, we always find European forms of long and short skulls, among which we see long or broad faces."

that Asia is to be regarded as the homeland of the Aryans; for only Asia can be regarded as the homeland of the brachycephalic type. Conversely, if the blond dolichocephalic type is the actual Aryan type, then only Europe can be considered the homeland of the Aryans; for it is an indisputable fact that the blondes occur nowhere else but in Europe in larger, more or less compact masses and outside this part of the world appear only as exceptions, as it were as splinters separated from the main stock.)¹

I have already discussed elsewhere the etymological meaning of the names of the Aryan peoples, such as the tribal name Arja itself²), as well as certain archaeological facts and all those aspects that result from the historically attested and still currently perceptible social-political stratification of the two races within the various Aryan peoples. It emerged from this that only the blond dolichocephalic race can be regarded as the actual Aryan race.

) D'Omalius d'Hallo, who was the first in France to effectively combat the theory of the Asiatic homeland of the Aryans, already utilized this argument in his lecture "sur la pr[^]tendue origine asia- tique des Europ[^]ens" (Bull. de la Soc. d'anthropologie de Paris. l^{re} ser. VI. 240) for the European hypothesis: "Une autre consideration qui resulte de la discus- sion est que je considere comme tres favorable à ma thesis, c'est que beaucoup de nos confreres conviennent que le type blond n'etait pas Pranger aux Aryens, mais, but, in order to take into account the consequences that I am considering, when I say that it is more likely than not that this type is developing in Europe, oh it is now the most widespread, it is said that there are blond men in Central Asia and in the Caucasus. The fact is possible, probable in my opinion, and I do not disagree, but, as I have said, the small number of these men indicates rather plutôt the number of conquistrants from Europe as the patrie originaire d'une race so remarquable par sa force et sa fecondit[^]." He had already expressed himself in a similar way the year before (1864), when, at his request, the question of the homeland of the Aryans was discussed for the first time in the Paris Anthropol. Society. Bull. de la Soc. d'anthropologie de Paris. l' ® sdr. V. 201.

²) Significantly, this name has been preserved not only in the proper or official names of several Germanic kings (Ariaricus, Arioaldus, Arioivistus, Ermanricus, etc., cf. the old names Danakonungr, Englakonungr, etc.), but also as the second part of several composite Germanic names of peoples: Ariaricus, Arioaldus, Arioivistus, Ermanricus, etc., cf. Danakonungr, Engla- konungr, etc.), but also as the second part of several composite Germanic names of peoples: Chatu-arii, Attu-arii, Ansu-arii, Ripu-arii (next to Ripi), Cbasu-arii, Boructu-arii, Cantu-arii, Vectu-arii, Teyrovo-dpot (next to Teirove?). This also includes the name Boio-arii (and Baio-arii) next to Boji.

race could be regarded as such. By referring to these explanations¹), I will content myself here with taking a closer look at the question mainly from an anthropological-linguistic point of view.

It must first be stated that the blond dolichocephalic type also appears among peoples who do not speak Aryan languages. Thus it is represented in large numbers among the Ugro-Finnish peoples, especially among the actual Finns. G. Retzius, who has made the latter the object of a detailed study, remarks, after communicating the result of his numerous measurements, as follows: "Mais si meme Fon cherche à expliquer par influence suddoise beaucoup de crânes dolichocephales de ce tableau, ils sont trop nombreux pour pouvoir être tous separees par cette simple explication de la cat^gorie des crânes finnois vöritables. On est donc presqüe forcé d'admettre la pr^sence d'un assez grand nombre de dolichodphales parmi ces derniers et par con- sequent Fon n'est pas entierement en droit de ranger la nationalité finnoise parmi les peuples totalement et exclusivement brachycephales, comme p. ex. les Lapons." ²) The kra- niological study of the Ugric peoples living in the east, as carried out by Zograff for the Meshcheryks and by Malieff and de Ujfalvy for the Bashkirs, who are also considered part of the Ugric family, has led to similar results. The 49 measurements carried out on the Meshcheryks resulted in 4 subdolichocephalic, 11 mesocephalic, 21 subbrachycephalic and 3 brachycephalic, with an average latitudinal index of 80.85. Malieff has determined the latitudinal index of the Bashkirs of the district of Belebdi* (Ufa governorate) to be 30 in.

dividuals receive the following digits:

3	had	one	Inde	f	75	2	had	one	Inde	fr	8
0		n		n	76	3		37	77	31	8
2	33	n		31	77	3	33	37	71	77	8
2			H	7	78	0	had	3)	37	n	8
2	n	77		31	.79	0		31	77	7)	8
4	77	77	n	77	80	0	n	77	11	77	8
3	n	77	n	71	81	0	n	37	77	77	9
2					82	1		77	77	77	9
	n	77	n								1

¹) Penka, Orig. ariac. 19 - 30; 34 - 44.

²) Retzius, G., Finska Kranier. Stockholm 1878. p. 194.

Malieff's experiments on 10 Bashkirs from Ufa						Me
The results were as follows:						
1	had an index of	74		had an index of		80
0	"	"	"	"	"	"
2	had "	"	"	"	"	"
1	had "	"	"	"	"	"
1	"	"	"	"	"	"
2	had	"	"	"	"	"

It is interesting to compare these figures, which Ujfalvy determined by taking measurements from 12 Bashkirs in Orenburg:

1 had a	Index from 78	1 had a	Index from 83
1 " "	" " 7\$	3 had "	n " 84
9 " n	" " 8\$ x	\$ "	" " 85
9 "	" " 81	%)	" " 86
1 " " -	" " 82	1 had "	" " 87

You can clear that the dolichocephal Element in the mass decreases, the further we come from west to east, a Wait a minute, that probably needs to

It is well known that blond hair and blue eyes in combination with tall stature are common among the Ugro-Finnish peoples. After the above, there can no longer be any doubt that both the Finns and the Hungarians are not unmixed, purely Turanian peoples, but that an element was involved in their construction which is also strongly represented among the Aryan peoples; there is no difference between the blond dolichocephalic type, as it appears among the Aryan peoples, and the blond dolichocephalic type, as it occurs among the Ugro-Finnish peoples. This is the opinion of all those who, from Castren to Ujfalvy, have seriously dealt with this question. I will only quote the latter's opinion: "Pour nous, les Fihnois sont loin d'ötre une race pure, ils nous paraissent le produit d'un melange de Mongols avec la race blanche du type blond. Ils ont conservö du Mongol le braebyedphalie, la grosse boîte osseuse, le visage carrö, les pommettes saillantes et les yeux obliques, ils ont pris de la race blanche la couleur

*) De Ujfalvy in the Revue d'anthropologie. 2° sdr. III. 354.

de la peau et des cheveux ; mais encore dans le second cas les cheveux ont conservé leur raideur mongolique." *)

The Finns and Hungarians alone are not only mixed peoples, their languages are also mixed languages. Just as the Ugric-Finnish lexicon contains many Aryan words¹, the form system of the Ugric-Finnish languages also clearly shows the influence it once experienced from the Aryan side.

The extent to which the Ugro-Finnish languages are interspersed with Aryan elements can best be seen from the fact that a competent expert on the Aryan and Ugro-Finnish languages, N. Anderson, could even think of assuming a common origin of the languages mentioned.)²

The question now arises as to which of the two Eace elements we should regard as the actual carrier of the Aryan language element, which constitutes such an essential component of the Ugro-Finnish languages. Is it the blond dolichocephalic or the dark brachycephalic Eace through which the Aryan element entered the Ugro-Finnish languages? The answer to this question is not difficult. If it had been the dark brachycephalic Eace through which the Aryan element came into the Ugro-Finnish languages, then Aryan elements would also have to be traceable in the languages of all those peoples who are anthropologically and linguistically related to the Ugro-Finns, i.e. in the languages of all other Ural-Altaic peoples, such as the Samoyeds, the Turko-Tatar peoples³), the Mongols, etc., just as, conversely, unmixed blond dolichocephalic peoples, such as the Germanic peoples, would have to appear in possession of a Turanian language of some kind. Since neither the former nor the latter is the case, only the blond dolichocephalic Eace can be regarded as the actual carrier of the Aryan element in the Finno-Ugric languages.

¹) Revue d'anthropologie. 2^e ser. III. 118.

²) Anderson, N., Studien zur Vergleichung der indogermanischen und finnisch-ugrischen Sprachen. Dorpat 1879.

³) Where they are found, as in the Turko-Tatar languages, they are likewise borrowings. H. Vāmbdry (Die primitive Cultur des turko- tatarischen Volkes. Leipzig 1879. p. 18) describes it as certain that the Turko-Tatar peoples only came into contact with Aryan (or Iranian) elements in a relatively recent period.

The identity of this dark brachycephalic racial element, which within the Ugro-Finnish family of peoples, especially among the Lapps, has often been preserved quite pure and without any trace of a mixture, with the dark brachycephalic racial element, of which I mentioned above that it is currently the numerically stronger one among a number of Aryan peoples and thus determines their anthropological character ("la race celtique" Broca's), has long been recognized. A. Retzius summarizes the following peoples in his overview of the "Brachycephali of Europe": Ungern (Samoyeds, Lapps, Voguls, Ostyaks, Permians, Votyaks, Cheremises, Mordvinians, Chuvashes, Magyars, Finns), Turks, Slavs (Czechs, Wends, Slovaks, Morlaks, Croats, Serbs, Poles, Russians, Modern Greeks), Latvians or Lithuanians, Albanians, Etrurians, Rhaetians, Basques. In a Swedish copy of this treatise, Retzius added the following note: "After this was written, I have had the opportunity to see a considerable number of braincases from Tuscany, Lombardy, Piedmont, Tyrol and Switzerland, and I have thereby come to the conclusion that the dominant tribes in these countries are black-haired brachycephals. This is also the case with the majority in Baden, Württemberg and Bavaria. - In France, the Basques have the same form, in Saxony and Austria this form is also very common and is probably of Slavic origin in these latter countries, and probably of Greek origin in Italy, Tyrol and Switzerland." ^{v)} Later research has only come to different conclusions with regard to a few of the peoples mentioned, such as the Basques, Etrurians and Pelasgo-Greeks. In the main, it has confirmed Retzius' compilation and has only had to expand and supplement it several times.

With regard to the (Romanesque) Rhaetians, K. E. von Baer came to the same conclusion on the basis of detailed examinations of their skulls carried out in their country. ²⁾ This result is also important for the decision on the question of the Aryan type because

V Retzius, A., Blick auf den gegenwärtigen Standpunkt der Ethnologie mit Bezug auf die Gestalt des knöchernen Schädelgerüsts (1856, German 1858). Ethnological writings. Collected after the death of the author. Stockholm 1864. p. 139.

^{a)} Baer, K. E., (Teber den Schädelbau der rhätischen Romanen. Bulletin de l'acad4mie imperiale des Sciences de St. P&ersbourg. 1. (1860). S. 55.

of particular importance, because it is certain that both the Rhaetians and the Ligurians did not speak any Aryan languages before their Romanization or Germanization. And with regard to the Ligurians, Nicolucci has provided evidence that they were brachycephalic and that their descendants are still brachycephalic today; this led him to assume Turanian origins for them (and for the Euganeans).¹) Thurnam remarks of the brachycephals of the English Round barrows: "The British brachycephali of the bronze-period are to be regarded as an offshoot, through the Belgic Gauls, from the great brachycephalous stock of Central and Northeastern Europe and Asia; in all the countries of which - France, Switzerland, South Germany, Bohemia, Poland, Russia and Finland - the broad and short cranial type is still the prevailing one."²) How Thurnam came to declare this skull shape, which he himself declared to be Turanian, to be the skull shape of the Aryan "Celts" has been explained above (p. 13). Pruner-Bey notes that the descendants of the Anaric-Mongoloid indigenous population of Europe are still to be found in large numbers among the present population of this part of the world. "Pour commencer par Fest de nos rdgions, quoi de plus frappant que do ren- cōnter dans les Alpes tyroliennes, au milieu de la race allemande, les valides de Groeden et d'Enneberg occupdes par une population à petite taille, à teint jaunâtre et bistrd, a chevelure lisse et noire, à crâne arrondi etc.. Individuals of the same type are found in the environs of Geneva and in the canton of Vaud, but not in the Savoie, etc. Mais entrons en France: ici tout le Midi offre de nom- breux exemples de ce type, et il en existe jusqu'en Bretagne, ^coutons ce que dit M. de Ferry relativement aux habitants de Solutrd où il recueillit les anciens crânes sous vos yeux: ""Il y existe de petits individus trapus, à teint basand, sans embonpoint, cheveux et yeux de plus beau noir, et parmi eux certaines têtes qu'à coup sûr reven- diqueraient quelques Calmouks." " Enfin la Ligurie tout entiere est occupde par cette race".³) It was incorrect, however, when Nicolucci both

¹) Nicolucci, G., La stirpe ligure in Italia ne' teinpi antichi e moderni. Napoli 1864. p, 75 sequ. <

²) Memoirs read before the Anthropological Society of London. UI. 79^a) Congrds international d'anthropologie et d'archdologie prehistoriques. Compte rendu de la 2^e Session, Paris, 1867. Paris 1868. P. 354.

as Bruner-Pey also attributed the Iberians to this race. H. von Hölder found two brachycephalic types among the Württemberg skulls in addition to the Germanic type (Ecker's serial grave form), one of which he calls Turanian because it is the most common type in collections and illustrations among the skulls of Turks, Mongols, Tatars and Lapps, and the other Sarmatian because it is the predominant type in all Slavic or Slav-mixed populations.

He then goes on to note that the extreme form of this Sarmatian skull shape is not only found in countries whose populations speak Slavic languages, but also in Graubünden, as well as in eastern Switzerland, Tyrol, northern Italy and in the ossuaries of Brittany; here, too, it is mixed to a greater or lesser extent with the Turanian skull, just as Retzius found among the Lapps, Lanzert in Great Russia and Weisbach in the Slavic countries of Austria. Should not this "Sarmatian" skull form also be a more constant and more frequently occurring Germanic (Aryan) Turanian mixed skull and find its place among the "mixed form series" rather than among the "basic types"? That the Aryan element was involved to a not insignificant extent in the formation of the Slavs is shown on the one hand by the light-colored complexion frequently found among them, and on the other by the crania of the row grave type found in the cemeteries of Russia and Poland, which are considered to be specifically Slavic for good reason. The people buried in these cemeteries were the direct descendants of the first Aryans, to whom the subjugation and Aryanization of the pre-Aryan-Turanian population of these countries must be attributed. And that the skull form of the Finns, which Hölder considers identical with that of the Slavs, must also be regarded as a mixed form, and that the deviations of this form from the purely Turanian form of the other Ural-Altaic peoples must be explained by the admixture of the Aryan element, has already been discussed above. What is true of the Württemberg skull forms is also true of the skull forms of southern Germany, such as the

*) Hölder, H. von, *Zusammenstellung der in Württemberg vorkommenden Schädelformen*. Stuttgart 1876. p. 8.

liaupt of all those Aryan countries where analogous forms can be demonstrated.

Since Hovelacque's studies on the shape of the Savoyard skull, the Savoyard type has been regarded as the true representative of Broca's "race celtique"; the aforementioned scholar came to the conclusion that the Savoyard shows the characteristic features of the same more purely than even the Auvergnate and Breton. ¹⁾ - But it is precisely this type in which de Quatrefages and Hamy recognize their "type laponofde". After demonstrating the distribution of this type in Germany, England, etc., they remark with regard to its occurrence in France: "La race de la carrière jfilie de Grenelle (near Paris) a persistd sur place jusqu'à nos jours. Nous en avons eu des preuves frdquentes en analy- sant nos grandes sdries crâniologiques de Paris Cette race paraît exister encore à l'dtat presque pur dans les Alpes du Dau- phind, ou M. Hoël a recueilli pour le Museum une collection des plus interessantes dans laquelle les crânes analogues à ceux dont on vient de parddominent sensiblement, Un nouvel examen a confirmd ce que l'un de nous avait dit au Congres de Stockholm des rapports existants entre ces tîtes osseuses et celles des Lapons".²⁾) Since the

¹⁾ Revue d'anthropologie. I^{re} sdr. VI. 250.

²⁾ De Quatrefages et Hamy, *Crania ethnica* 144. In his last work (*Hommes fossiles et hommes sauvages*. Paris 1884), de Quatrefages takes up the theory of A. Retzius⁹ regarding the former spread of the Turanian race in Europe in its entirety. After reporting the relevant facts, he remarks on p. 577: "Ces faits confirment d'une manière bien remarquable les avis dmises par Anders Retzius au snjet de l'ancienne extension de la race laponne, ou tout au moins de populations tres-rapprochdes des Lapons actuels. However, the conclusions that are drawn are still being fought over by a few diminutive savants in the name of archaeology or linguistics. I do not wish to refrain from examining their objections here, and knowledge would be enough for me to speak out against men who accept them as masters who can judge them better than I can. I have to observe that the doctrine that Retzius has now adopted by naturalists and anatomists also has adherents among linguists and archaeologists. Moreover, in the questions of this nature, the physical characteristics have come to have a meaning superior to all the others. A people changes its language, its colors, its industries, sometimes within a relatively short period of time; it cannot rapidly lose its taille, its color, the shape of its body. It is therefore permitted to think that the exactitude of the conclusions is

inhabitants of the Dauphind are anthropologically no different from the inhabitants of neighboring Savoy,^x), the same applies to the shape of the skulls of the Savoyards.

However, this also removes the actual basis for the conclusions drawn from the identity of the skull shape of the Savoyards with the skull shape of the Iranian Galchas with regard to the homeland of the Aryans, as established by Topinard. The ancestors of the Savoyards and the other brachycephals of Europe did, however, migrate to Europe from Asia - the center of radiation of all brachycephals on earth - but by no means as Aryans, neither in the anthropological nor in the ethnic sense of the word. It was only in Europe that these brachycephalic (Turanian) immigrants - many only at a relatively late stage - exchanged their languages with Aryan ones and merged with the actual Aryans - the blond Dolichocephali - to form linguistic-ethnic units, in many cases also mixing with them and thus giving rise to the emergence of mixed races. The original elements, from whose combination they emerged, can easily be traced in all of the resulting mixed types. This applies not only to Europe, but also to Asia. Ujfalvy's data on the Galchas in particular proves this statement to be correct. Among 56 Galchas, he found 9 blondes, 29 with blond or blondish beards and 10 with blue eyes; among the same 56 Galchas there were 2 subdolichocephals, 8 mesocephals, 6 subbrachycephals and 40 brachycephals. It is therefore clear that the blond dolichocephalic race also participated in the formation of the Galchas. But even among the same par Retzius des faits connus à son époque sera prochainement reconnue sans contestation; seulement on substituera, selon toute apparence, la notion d'affinités étroites à celle d'identité."

*) W. Edwards notes explicitly: "C'est en traversant la région de la France qui correspond à la Gaule orientale du nord au midi, c'est-à-dire la Bourgogne, le Lyonnais, le Dauphinois, la Savoie, que j'ai distingué ce type bien caractérisé, auquel nous venons de rapporter le nom de Galls et si généralement répandu que je n'en avais pas d'abord reconnu d'autre excepté dans un seul canton." Mémoires de la Société ethnologique. I. 53 et 40. Edwards' "Gallic" type is the same type that Broca called the "Celtic" type; both call the "Aryan" type the "Cymric" type.

In the case of Iranian Tajiks, who are physically very different from the Galchas, there are blondes - among 29 Tajiks, Ujfalvy found 5 blondes, 13 with blond or blondish beards and 6 with blue eyes^x) - proof that it can only be the blond dolichocephalic race that we have to regard as the actual bearer of the Aryan (Iranian).

There can therefore be no doubt that it is only the blond dolichocephalic (Germanic-Scandinavian) type that must be regarded as the actual Aryan type. From this point of view, therefore, there is no objection to the assumption that the original inhabitants of Sweden and Scandinavia were genuine Aryans.

The results of comparative linguistics are also in perfect harmony with the results of anthropology. While in the languages of all those Aryan peoples whose anthropological character is mainly determined by the Turanian element, all or at least most of those sounds are found which are peculiar to the Ural-Altaic languages (palatals, mouillirte sounds, etc.), these sounds are characteristically absent from the basic ancient Aryan language, but also from the languages of those Aryan peoples who have preserved the ancient Aryan type most purely, above all the languages of the Scandinavian peoples, where linguistic phenomena such as those mentioned can only be detected very exceptionally. Thus these languages form a significant contrast to the languages of the Slavs, Lithuanians, Romans, etc., a contrast which at the same time finds its counterpart and justification in the anthropological difference of the peoples speaking these languages.)²

in.

We now come to the answer to the second question: Does the picture that linguistic paleontology draws of the culture of the Aryans during the period preceding their first separation

^x) Revue d'anthropologie. 2^c ser. II. 10.

²) More details can be found in the linguistic sections of my original Ariac. For comparison, see also J. Grimm, Geschichte der deutschen Sprache. I. 380 ff.

does it correspond to the picture that archaeology has drawn of the oldest civilization on the basis of palaeontological and archaeological finds, or is it different from it?

This question can also be answered in the affirmative. Not so long ago, however, this answer would have been received with a disbelieving shake of the head. But recent investigations have had an enlightening and instructive effect in this respect in two directions: on the one hand, the untenability of the old view, which saw the original inhabitants of Sweden and Scandinavia as savages at the lowest cultural level, has been increasingly recognized; on the other hand, more recent investigations have shown that the views on the high cultural state of the original Aryan people, which were previously generally accepted by Pictet and other researchers, were often erroneous and exaggerated. The prehistoric Swedes, or Scandinavians, were neither savages, nor were the Aryan primitive people at the high level of culture that was previously attributed to them. It can now be regarded as proven that before their separation they did not know the use of metals, most probably with the exception of copper, but that they already had permanent dwellings and practised cattle breeding and agriculture.)¹

¹) According to V. Hehn (*Culturpflanzen und Haustiere in ihrem Uebergang aus Asien nach Griechenland und Italien*. 4th ed. Berlin 1883), one would have to think of the original Aryan people as not even cultivating crops, but as a simple pastoral people; indeed he even (p. 451) personally declares himself to be inclined towards the view of those who deny that the Aryan peoples - even the European ones - practiced any kind of agriculture before the end of their migrations. In this Hehn has gone decidedly too far; one must at any rate concede that the primitive Aryan peoples practiced agriculture. The Aryan lexicon, with its terms for agricultural practices and tools, with its names for cereals and other crops, bears full witness to this. If Hehn further denies that the primitive Aryan people possessed weapons and implements of metal, that they knew metal in the form of copper, as the equation sanskr. *ayas*, zend. *ayanh*, lat. *aes*, goth. *aiz*, altir. *tarn* for ³*isarn* proves, but did not work it into tools, but used only stone weapons (p. 463), a view which is also held by O. Schrader (*Sprachvergleichung und Urgeschichte*. Jena 1883. p. 297), is correct at least as far as it concerns the other metals, but hardly as far as it concerns copper. As can be proved with certainty, the Neolithic culture of Europe is of Aryan origin and copper, as M. Much

Let us now listen to H. Hildebrand's description of the Nordic stone culture.¹) "More recent investigations compel us to change these views somewhat - that the oldest inhabitants of the country were wild tribes of people who lived from hunting and fishing and were content, so to speak, with the most meagre means of subsistence. While fully recognizing the great difference between then and now, it must be admitted that the state of education then was not as crude as it seemed to us at first. Of their skill in working the stone, in shaping. I will not speak of their skill in shaping, sharpening and cutting stone, for even a fairly lowly people can acquire great skill in a limited field of activity through constant practice. The stone culture, the remains of which we find in Western Europe together with the bones of extinct giant animals, is poor in forms; poor in forms also is the stone culture, the representatives of which lived in France at the same time as the reindeer, which now exists only in the far north of our part of the world. In contrast, the fully developed stone culture in the north is incomparably richer. In the graves and in the soil we find axes and chisels of different varieties; knives and spearheads of different shapes, as well as various arrowheads; pierced hammers, axes or wedges - all these terms can be applied to some specimens - of simple or varied, often even delicate and noble types. Also, when making a tool, one did not always limit oneself to satisfying the cheap requirements for its practicality and usefulness, but rather endeavored to decorate it to the best of one's ability. Some knives and daggers have a proper handle with ornately beaded edges; some then

in a recently published treatise (*Die Kupferzeit in Europa und ihr Verhältnis zur Cultur der Indogermanen. Mittheilungen der k. k. Central-Commission zur Erforschung und Erhaltung der Kunst- und historischen Denkmale. XL, p. C-CIX*), was processed into tools in the oldest sections of the Neolithic period. According to Much, one can no longer speak of a Neolithic period, but must speak of it as the oldest metal age, and the name Stone Age can only be applied to the "mammoth" and reindeer periods.

Hildebrand, *The Pagan Age in Sweden* 66.

The vessel, of coarse mass and weakly fired, nevertheless shows carved ornaments which, although borrowed from the most primitive style of ornamentation, are pleasing to the eye and testify to the idea of something higher than what belongs to the daily necessities of life. People did not possess many things that now seem indispensable to us, but what they did have, they knew for a reason and knew how to make the most of it. It is no longer the uncertain attempts at education that are revealed to us in the culture of the Stone Age in Sweden, but a culture that was richly developed and to a certain extent matured in the relatively lower stages.^Å

"Various stages are noticeable in this culture, partly through the greater or lesser skill in working the stone as the material from which they made their tools, partly in other things. There seems to have been a time when the Stone Age people owned only one domestic animal, the dog; it is certain that there was also a time when the population, who did not yet know any metals, owned not only the dog but also horses, cattle, sheep and pigs;²) consequently, from then on there can no longer be talk of a Stone Age people who sought their livelihood solely by means of hunting and fishing. They even had a richly developed livestock population and certainly also permanent dwellings, although all traces of these have disappeared. However, it is possible to have numerous herds and still lead a nomadic life; for Sweden, however, this assumption has its doubts, as the natural characteristics of the country were hardly such that there was sufficient free land for the arbitrary relocation of dwellings.⁴

"The graves of this cultural period are made of large stone slabs or blocks. They often lie together in groups

"This has been fully proved by the investigations carried out in 1863 by my father, Prof. Düben and Dr. G. Retzius in Westgoth-Jand; in 1868 by my father, Prof. Düben and myself in the same place, and in 1869 by myself in Scania. The former excavations, described in the *Antiquarisk tidskrift* for *Svetige* 1. 225 ff., brought to light partly worked bones of dog, horse, cattle and sheep; the latter, not yet described, bones of pig, horse, etc.; the latter, described in *Antiquar. tidsk. f. Sverige* III. 1 ff., bones of dog, horse, cattle, sheep and tame pig." Cf. the remarks in the next section.

and may then indicate the center of current settlements. They are usually found in particularly fertile areas. Hopefully, future finds will confirm the assumption that agriculture was not unknown to Stone Age people in Sweden, as in Switzerland, for example."¹)

These finds have actually been made since then. They include the stone hand mill that Montelius found in the summer of 1*884 at the bottom of a passage grave on the west side of Billingen in Lundby parish in West Gothland under circumstances that indicate that it belongs to the Neolithic period.²) But even without such direct evidence, we can assume as almost certain that the prehistoric inhabitants of Sweden were already familiar with agriculture during the Neolithic period. The Neolithic culture of the country shows such a similarity to the Neolithic culture of Central Europe, including Switzerland, in every respect where comparisons are possible, that we can easily fill in the gaps in our knowledge of the stone culture of the north with the finds made in the Swiss, Austrian and Upper Italian pile dwellings.³) In addition, it has now been established with certainty that the builders and inhabitants of the Swiss pile dwellings belonged to the same race as the Scandinavians of the Neolithic period.

¹) The culture of Sweden during the Stone Age is similarly described by Montelius, *Die Cultur Schwedens in vorchristlicher Zeit* 5-35, and in his *Sveriges hednatid samt medeltid*. (First part of *Sveriges historia* published by several scholars). Stockholm 1877. pp. 15-83.

²) Ymer. Tidskrift utgiven af Svenska Sällskapet för antropologi och geo- graf. IV. Förhandlingar XXX.

³) The rock sculptures of Sweden, which belong to the Bronze Age, and in some cases perhaps even to the Stone Age, also allow us to draw conclusions to a certain extent about the Neolithic culture that immediately preceded the Bronze Age, especially since it is certain that the transition from the Neolithic culture to the Bronze Age culture took place without a change in population. On these rock paintings (*hällristningar*) we find depictions of men and women, horses and cattle, wagons, ships, shields, bows, daggers, lances, axes, religious symbols, battles on wagons and on land. The plowshare depicted on the rock carving at Tegneby in Bohuslän, which is drawn by two cattle and supported by

IV.

The third question we must now answer is: Is the fauna and flora that surrounded the Aryans in their original settlements identical with the prehistoric fauna and flora of Scandinavia, according to the evidence of language, or are there differences in this respect? ?

In this field, too, the results of linguistic research are in full agreement with the results of palaeontological research. O. Schrader draws up the following list of mammals on the basis of linguistic comparison, which must have been indigenous to Aryan soil from time immemorial: a) Predatory animals: Dog, wolf, fox, lynx, otter, bear, hedgehog; b) rodents: squirrel, mouse, hare, beaver; c) solipeds: horse; d) ruminants: deer, goat, sheep, cattle; e) many-hoofed animals: pig. All these animals already lived in the Scandinavian countries in the Stone Age, as the finds made in the older Danish Kjökkenmöddingern and the more recent Swedish passage graves prove.)¹

- The bones of the following mammals have been found in the Kjökkenmöddingern: a) dog (*Canis familiaris* L.), wolf (*Canis lupus* L.), fox (*Canis vulpes* L.), lynx (*Felis lynx* L.), otter (*Lutra vulgaris* Exl.), brown bear (*Ursus arctos* L.), hedgehog (*Erinaceus europaeus* L.); b) mouse (*Mus flavicollis* Mel.), beaver (*Castor fiber* L.); d) deer (*Cervus elaphus* L.), roe deer (*Cervus capreolus* L.), primitive bull (*Bos primigenius* Boj., the progenitor of the Chillingham race and the large cattle race widespread in Friesland, Jutland and Holstein); e) wild boar (*Sus scrofa* L.). Not represented in the Kjökkenmöddingern of the above-mentioned animals are: the squirrel, the hare, the horse, the goat, the sheep, from which, however, it may by no means be inferred that these animals of the Danish fauna of the time were controlled by a man at all, is one of the oldest positive proofs of agriculture in Sweden. These pictures also show that the horse was used for both walking and pulling. The ships do not have masts or sails. The oars are only depicted on the rock painting of Valla in Bohuslän. Cf. Montelius, Sur les sculptures de rochers de la Suède in the *Compte rendu du Congrès de Stockholm*. I. 451-483.

*) Schrader, O., *Thier- und Pflanzengeographie im Lichte der Sprachforschung*. Berlin 1884. p. 5.

were.²) The Kjökkenmöddingern also include the marten (*Mustela martes* and *M. foina* L.), the porpoise (*Delphinus phocaia* L.), the seal (*Phoca vitulina* L.), the water rat (*Hypudaus amphibius* L. and *Hypudaus agrestis* L.) and the wild cat (*Felis catus* L.). The names of three of these animals also appear in the common lexicon: lat. *martes*, ags. *meardh*, altn. *mördr marten*²); altn. *sel-r*, ags. *seolh*, ahd. *selah* seal, seal, Greek *askayo*? Sea mammal, like seal etc.⁸); pers. *pushak*, *pushak*, afgh. *pishik*, kurd. *psiq*, lit. *pui26*, irl. *pus* and *feisag*, *fiseog*, *feisain* dimin., ers. *pusag*, *piseag* that., from which the English puss cat, originally probably the name of the wild cat.⁴)

Also found in the Kjökkenmöddingern were the remains of birds which, according to linguistic evidence, must have lived in the original Aryan homeland: beautiful specimens of capercaillie (*Tetrao urogallus* L., Greek *rsTpatnv*, *TsrpaSwv* and *rsrpaE* capercaillie, Old Greek *thidur-r* capercaillie, lit. *tetervas* black grouse⁹), as well as several species of ducks and geese⁶), and the wild swan⁷) (*Cygnus musicus* L.).

Of the common species of fish that occur in the Kjökkenmöddingern (haring, cod, glahrke and eel), the latter has a name that also belongs to the common lexicon: greek. *sy^skog*, lat. *anguilla*, which is accompanied by slav. *agulja*, *j-egolja* *j-egulja*, lit. *ungurys*, altsl. *agoriöi*, ahd. *äl* (with the not uncommon drop-out of the *g* from^x *agal*); the basic form of these words

¹) Steenstrup, *Japetus*, Sur les kjökkenmöddings de Fäge de la pierre et sur la faune et la flore préhistoriques de Danmark. Extr. des bulletihs du Congres international d'arch^ologie préhistorique ä Copenhague en 1869. Copen- hague 1872. p. 138; Lubbock, J., *Die vorgeschichtliche Zeit*. Translated from the English by Passow. Jena 1874. I. 226.

²) Piet et, A., *Les origines indo*europ&nnnes*. 2© ed. Paris 1877. I. 475.

⁸) Fick, A., *Vergl. Wörterbuch der indogermanischen Sprachen*. 3rd ed. Göttingen 1874. I. 797.

⁹) Piet et, op. cit. I. 475.

¹⁰) Fick, op. cit. I. 590.

¹¹) Hehn, op. cit. 301; Pictet, op. cit. I. 481; Fick, op. cit. O. I. 488 and 577.

¹²) Pictet, op. cit. I. 484; but lat. *olor*, cymbr. *alarch* (root *al*) is to be placed with the Old Slavonic *älft*, Old Slavonic *lebedi* (from^x *albedi*), derived from the same root.

is_x anghara (-u), which reappears with little phonetic change in the Finnish ankerias.²) On the other hand, the unification of Old Slavonic sild, Old Slavonic seid!, lit. silke Häring may be based on borrowing.

As crab remains also occur in the Kjökkenmöddingern, the Aryan lexicon also shows a common name for this animal: sanskr. karka, greek xap^{ar} xapxtvot. StxsXoi. Hesych. xapxtvos, Old Sl. rakū (for^x krakū from^x karkū) crayfish.²) The comparison of the Greek xapapos, xdppapo? with the Old Greek humar-r, nhd. lobster, shows that the lobster was already known to the indigenous Aryan people.)³

The name of the oyster, which is so common in the Kjökkenmöddingern, is also Uraian: Greek ocrpsov, Latin ostrea, Old English ostra, Irish oisridh, Cyrillic oestren, körn, estren, armor. eistren, Old English ostrei, etc.).⁴) And just as there are numerous remnants of shells and snails (especially cockles, mussels and periwinkles) in the Danish shell heaps, the Aryan lexicon also shows common names for these animals.)⁶

The Swedish burial sites from the Stone Age, **which** are younger than the Danish Kjökkenmöddinger, also contain the remains of numerous animal species, the most important of which are: the cat (*Felis catus* L.), the lynx (*Felis lynx* L.), the marten (*Martes silvestris* Gesn.), the marten (*Martes silvestris* Gesn.), the badger (*Meles Taxus* L.), the brown bear (*Ursus arctos* L.), the wolf (*Canis lupus* L.), the dog (*Canis familiaris* L.) with various varieties similar to those living today, the fox (*Canis* vulpes* L.), the seal (*Phoca vitulina* L.), the hare (*Lepus timidus* L.), the beaver (*Castor über* L.), the pig (*Sus scrofa* L.), the horse (*Equus caballus* L.), the reindeer (*Rangifer tarandus* L.), the sheep (*Ovis aries* L.), the goat (*Capra hircus* L.), the aurochs or bison (*Bos urus* L.), the primitive bull (*Bos primigenius* Boj.) and the domestic cattle (*Bos taurus* L.), namely both *Bos longifrons* Owen and *Bos frontosus* Nilsson.)⁶

Kinberg, the author of the study awarded the great prize of the Archaeological Academy in Stockholm, believes that these animal species

¹) Fick, op. cit. I. 482; Pictet, op. cit. I. 641.

²) Fick, op. cit. I. 524; Pictet, op. cit. I. 653.

¹³) Fick, op. cit. I. 520.

⁴) Pictet, op. cit. I. 651.

⁵) Pictet, op. cit. I. 642-650.

⁶) Kinberg in *Compte rendu du Congres de Stockholm*. II. 827-833.

The "Arkeologisk Zoologi", which was awarded the title "Arkeologisk Zoologi", describes the following as already being in a state of domestication at that time: the dog, the pig (appears as tamed and wild), the horse, the sheep, the goat, the cattle. Kinberg is unable to decide whether the bones of the race belonged to tamed or wild animals.

We can therefore see that the animal species missing in the Kjökkenmöddingians, such as the horse, the goat and the sheep, which undoubtedly belonged to the Urartian fauna, were in fact already living in Sweden in the Neolithic period, and already in a state of domestication. The prehistoric Swedes therefore already possessed all our most important domestic animals at this time, while the people of the Kjökkenmöddinger were only familiar with one domestic animal, namely the dog.

Finally, it should be noted that the other animals which we are entitled to ascribe to the Urartian fauna on the basis of linguistic comparison, such as the raven, the crow, the starling, the quail, etc., also belong to the Scandinavian fauna, and that animals which are not represented in it do not appear in the common Aryan lexicon either.

The same applies to the flora. However, since on the one hand no cultivated plants have survived from the Scandinavian Stone Age, and on the other hand the coincidence of several languages in the naming of a cultivated plant by no means allows the conclusion that the original Aryan people knew it, since the coincidence may also have arisen through the borrowing of the name from one language into another, the comparison here must be limited to those plants on whose distribution man has always exerted the least influence. These include first and foremost the forest trees. The comparison shows that all forest trees that we can consider with certainty as belonging to the Urartian flora on the basis of linguistic evidence, such as birch, beech, oak, spruce, willow, hazel, elm, alder, aspen, ash, maple and yew^x), are also not alien to Scandinavian vegetation.)²

¹) Schrader, op. cit. 22.

²) According to E. Fries (*Summa vegetabilium Scandinaviae*. Holmiae et Lipsiae (1846)), the birch (*Betula alba* L.) occurs throughout Scandinavia, the beech (*Fagus*

All three preliminary questions posed at the beginning of this study can therefore be answered in the affirmative. However, from the fact that Scandinavia can be thought of as the homeland of the Aryans, it by no means follows that this and no other country really is. Proof of this must still be provided.

V.

If the Aryan (blond dolichocephalic) race were a zoological or botanical variety, the Aryan homeland question would have been decided long ago. In zoology and botany, it has always been a principle to regard the middle region of the distribution area of any species or variety as its original source and starting point. If we apply this principle to our question, there can be no doubt that only Scandinavia, and specifically the southern and central part of it, can be regarded as the original Aryan homeland. For this is the actual center of the distribution area of the blond race, the region where it has always developed most fully. The further we move away from this center to the north or south, to the west or east, the weaker and rarer this type appears to us, until finally, at the outermost borders of the Aryan linguistic and ethnic world, it is almost no longer represented at all. While today's Swedish skulls, as Ecker found by comparison, still correspond perfectly with the skulls of the Frankish and Alamanian row graves,¹) is *silvatica* L.) in Denmark, Gothland and in the southernmost part of Norway, the oak (*Quercus robur* L.) in Denmark, Gothland, Norway and Svealand, the spruce (*Pinus silvestris* L.) in the whole of Gothland, Norway and Svealand, but has become extinct in Denmark. The willow (*Salix caprea* L.) and hazel (*Corylus avellana* L.) are found throughout Scandinavia. The elm (*Ulmus montana* Baup.) occurs throughout Scandinavia with the exception of Lapland, the alder (*Betula alnus* L.) throughout Scandinavia, the aspen (*Populus tremula* L.) also throughout Scandinavia, the ash (*Fraxinus excelsior* L.) throughout Scandinavia with the exception of Lapland, but only sporadically in Denmark. The maple (*Acer platanoi'des* L.) is found throughout Scandinavia, but also only sporadically in Denmark. The yew (*Taxus baccata* L.) occurs in Gothland, Norway and Svealand. Cf. Frie s 58, 55, 55, 58, 56, 55, 53, 58, 55, 15, 24, 59. -^j) Ecker, *Crania Germaniae meridionalis occidentalis* 89.

This skull shape is by no means the predominant one in today's Germany; on the contrary, in many parts of Germany it only occurs as an exception. And it is evident that the further we move away from the north to the south, the less frequently it occurs, just as the blond complexion decreases more and more towards the south, so that Schleswig-Holstein and Bavaria represent the most extreme contrasts in this respect *). If we turn westwards from Scandinavia towards the British Isles, we encounter the same phenomenon here too. The main mass

of the blond population of England and Scotland is found in the eastern part; the Welsh, High Scots and Irish are predominantly of darker complexion. The situation east of the Scandinavian peninsula is similar among the Ugrian-Finnish peoples, who we know have been profoundly influenced by the Aryans both physically and linguistically. While G. Retzius found a not inconsiderable number of dolichocephalians among the Finns of the Great Tyranny of Finland, dolichocephaly is only represented in small numbers among the Ugric peoples of the East (cf. pp. 24, 25). The situation is similar with complexion. While Virchow was able to present as an undoubted result of his anthropological journey to the south of Finland the fact that the overwhelming majority of the population in the east and west is blond and blue-eyed and all light-colored.

²⁾ The blond type is represented in northern Germany by 43.35 to 33.56, in central Germany by 32.50 to 25.29, in southern Germany by 24.46 to 18.14, in Austria (Cisleithania) by 19.79, in Switzerland by only 11.10 per cent, while the reverse is the case for the brunette type: in northern Germany it is represented by 6.95 to 11.17, in central Germany by 12.6 to 14.74. The opposite ratio applies to the distribution of the brunette type: 6.95 to 11.17 percent in northern Germany, 12.6 to 14.74 percent in central Germany, 15.37 to 25.21 percent in southern Germany, 23.17 percent in Austria and 25.70 percent in Switzerland. More than half (54.15 per cent) of all schoolchildren in Central Europe belong to the mixed forms. It is also worth noting that of the 11 administrative districts in which the number of blondes is 50 or more percent, 8 belong to north-western Germany (Oldenburg 5, Schleswig 2, Stade 1) and only 3 to eastern Germany (Hinterpommern). Cf. the more detailed data in Virchow, Gesamt- bericht über die von der deutschen anthropologischen Gesellschaft veranlassten Erhebungen über die Farbe der Haut, der Haare und der Augen der Schulkinder in Deutschland (Archiv für Anthropologie. XVI. 275-475) and in his lecture on the distribution of the blond and brunette types in Central Europe. Sitzungsberichte der königl. Akademie der Wissenschaften zu Berlin. 1885. S. 39-47.

is,¹) Ahlquist also describes the Woguls on the basis of his own observations as follows: "The face is round, the cheekbones a little protruding as in all Finns, the nose broad but not flattened, the most common hair color is dark brown, but in quite a few one also finds quite light hair." And Ahlquist found the hair of the southern Woguls to be completely pitch black.²) And the well-known traveler O. Finsch notes of the Eastern Yaks that although there are also men with grey or blue eyes and dark hair, with dark head hair and a blond beard, and finally blondes, black hair, dark eyes and medium stature predominate among them. Of further interest is Finsch's observation that it is extremely difficult to distinguish Samoyeds and Ostyaks anthropologically as separate peoples; both are almost completely identical in their physical and facial features, customs and traditions, and consider themselves to be one people, so that only the difference in language separates them.)³

Basically, it was a similar point of view that determined some scholars, who had recognized the untenability of the Asiatic hypothesis, to declare Eastern Europe as the homeland of the Aryans. If the Aryan distribution area in the west is limited by the Atlantic Ocean, then Eastern Europe forms approximately the middle between the western and eastern borders of the distribution area of the Aryan peoples (Celts in the west, Indians in the east). Quite apart from the fact that in this question it is not the ethno-linguistic but the anthropological aspect that is decisive, the geographical premise of the whole conclusion is also incorrect: it is not France and the British Isles but the American continent that lie on the western border of the Aryan distribution area; it is not the Atlantic but the Pacific Ocean that delimits it.

The fact that the Aryan type has been preserved most purely in Scandinavian countries has been preserved most purely in Scandinavia, from the iso

Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1874. S. 188.

^{a)} Ahlquist, A., Die Culturwörter der westfinnischen Sprachen. Helsingfors 1875. p. 282.

^{b)} Cited by Virchow in the Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1877. S. 332.

If this explanation were correct, then the British Isles, in view of the fact that their geographical position makes them even more inaccessible to any invasion by foreign peoples, should have preserved the Aryan type even less mixed. In fact, however, both Great Britain and Ireland show a much more colorful mixture of races than even Germany, situated in the heart of Europe, and this not only in the present, but also already in the first period of the post-Quaternary period, a clear indication that the preservation of the Aryan type there cannot be explained by the isolated location of Scandinavia alone.

While the importance of this fact for the question of the Aryan homeland can neither be denied nor diminished, it is very doubtful whether it will be valued so highly in all the circles that are interested in the solution of this question, in order to base the decision on it alone.

On the one hand, this question has been discussed for far too long from a one-sided linguistic point of view and, on the other hand, the aversion to the transfer of scientific principles to the history of man is still too general for one to assume that this one argument alone will immediately convince the opponents of the Scandinavian hypothesis of its correctness. Therefore, the path of the hitherto usual argumentation must be taken anew, but with the use of all auxiliary disciplines of history, especially archaeology.

VI.

In order to do this successfully, it will be good to take up the Eastern European hypothesis mentioned above. One of the arguments put forward in its favor has already been considered. More important, however, are the following considerations. As we have seen earlier, the culture of the unseparated Aryan primitive people corresponds to that cultural period of Europe which we call the Neolithic and whose character we can best learn from the finds made in the Swiss pile dwellings. There can be no doubt that this Neolithic

culture, which is by no means insignificant, did not arise suddenly, but presupposes far more primitive cultural phases, which it went through and which we can actually trace deep into the Quaternary period. It follows from this that a country in which only Neolithic finds have been made and no trace of a Palaeolithic population is detectable cannot be considered from the outset for the question of whether it can be regarded as the homeland of the Aryans. In this case, northern and central Russia is the first place. Among the numerous finds from the Stone Age that have become known from this part of "Eastern Europe", not a single one can be found to date that would demonstrate the simultaneous existence of man with the mammoth and the other extinct pachyderms in these regions, as can be proven beyond doubt for France, England and Germany, for example.¹⁾ The oldest finds that have been made there belong to the Neolithic period. The existence of Palaeolithic man can only be proven for southern Russia. Its distribution area lies south of an oblique line that runs from southwest to northeast; it starts in Krakow, passes through Kiev, Poltava and Voronezh, and then runs northeast.²⁾ It is clear that the homeland of the Aryans, if in eastern Europe at all, can only be sought within this Palaeolithic zone, for which it could also be argued that it borders on the sea, which, according to the Common Agricultural Lexicon, was already known to the original Aryan people. But that is all that could be said in its favor as the presumed homeland of the Aryans; all the more numerous arguments can be put forward against it. It has already been noted above that the beech belonged to the flora of the Aryan homeland and that the eel was also known to the original Aryan people. Now the beech is only found in a few western border provinces of European Russia; its eastern border in Europe is a line that runs almost straight across the continent from the Vistula Lagoon near Königsberg across

¹⁾ Worsaae, J. J. A., *Buslands og det skandinaviske Nordens Bebyggelse og ældste Kulturforhold. Bidrag til sammenlignende forhistorisk Archæologie. Aarbøger for Nordisk Oldkyndighed og Historie.* 1872. S. 320.

²⁾ Merejkowsky in the *Revue d'anthropologie*. 2^e ser. VI. 108; Penck in *Archiv für Anthropologie*. XV. 214.

Poland to Podolia. It only continues beyond the steppes in the Krimm and the Caucasus.¹⁾

So if the beech is only present in a very small part of the above-mentioned palaeolithic zone, the eel (*Anguilla fluviatilis*) is just as absent there as in Asia. For it is well known that the Black Sea and all rivers that flow directly or indirectly into it, as well as the Caspian Sea and the river basins connected to it, lack eels.²⁾ However, since all the rivers of the Palaeolithic zone of southern Russia flow into the Black or Caspian Sea, it follows from this alone that it cannot be considered the homeland of the Aryans. The situation with the salmon is similar to that with the eel. This fish was also known to the original Aryan people: Forms such as Old English lax, Old German leax, Old German lahs, Lit. lasziszas (Szyrvid lasasza), Prussian lalasso (read lasasso), Polish and Russian losoS, Bohemian losos (with the frequent transformation of a basic linguistic kh into a sibilant in Slavo-Lithuanian) point to a common basic form^x lakhasa (or^x lakhsa).³⁾ Now the salmon (*Salmo salar*), whose home is the Arctic Ocean and the northern parts of the Atlantic Ocean, is only found in the streams and rivers of Russia, which flow into the Baltic Sea and the White Sea, but by no means in the rivers that flow into the Black or Caspian Sea.

Nor does it occur in the rivers of Asia or in the Mediterranean Sea,⁴⁾ which explains why it is not found in Irani

¹⁾ Grisebach, A., *Die Vegetation der Erde nach ihrer klimatischen Anordnung*. An outline of the comparative geography of plants. 2nd ed. Leipzig 1884. I. 86.

²⁾ Brehm, *Thierleben*. 2nd ed. VIII. 326.

⁸⁾ Cf. Fick, *op. cit.* II. 651.

⁴⁾ Brehm, *op. cit.* VIII. 214. With regard to Turkestan in particular, where the homeland of the Aryans used to be attributed with preference, more recent investigations, 'especially those carried out by Russian researchers, have established beyond doubt that neither the salmon nor the eel occur in its rivers (Syr-Darya, Amu-Darya, Serafshan). The numerous family of salmonids is also represented here, but only by a single species, the *Salmo oxianus* Kessler, which does not occur here. Lansdell, Henry, *Scientific Appendix to Russian Central Asia*. Content: Fauna and flora of Russian Turkestan. Leipzig 1885. p. 40.

The corresponding phonetic forms of the Uraric^x lakhasa have been preserved in Greek and Latin.

But difficulties also arise in another direction if one pursues this hypothesis in all its consequences. On the coast of the Black Sea, on the Krim peninsula, stone settlements of a peculiarly monumental kind have long been found, which in Denmark were called "Steendysser" (stone tombs) and "Jättestuer" (giant rooms), in Germany "Hünengräber", "Riesenbetten", in France and England "Dolmen", "Cromlechs". Later, similar monuments were found in southern Russia, namely between the Dnieper and Dniester rivers, north of Odessa. Even later reports told of kurgans or dolmens of a height of 18 to 6 feet in Podolia towards the Dniester and of a burial site found there with fifteen skeletons in a sitting position, each holding a stone axe in its left hand. Beautifully carved stone tools have also been found both in these areas and further north, in the Ryazan and Kiev governorates. Worsaae, who saw some of the stone axes found in the Ryazan governorate in the collection of the Geographical Society in Petersburg, expressly notes that the similarity between them and the Danish polished stone hammers is striking.)^x

Dr. H. Wankel, who had the opportunity to study the finds from Russia exhibited during the archaeological-anthropological congress in Kiev (1874), also noted the deceptive similarity between the stone tools found in southern Russia and the Scandinavian ones. "In Kiev itself," he notes in his "Sketches from Kiev"²), "many polished hammers with shaft holes were found, especially near the old churches where the battle of the Pechenegs was once fought. A defective fragment of a pierced hammer is remarkable for the vertical bead at one end; related to it is a gypsum cast of a pierced hammer with ornamental lines on the body and a bead running around one end.

¹) Worsaae, op. cit. 334.

^a) Mittheilungen der Anthropologischen Gesellschaft in Wien. V. 10.

type extension. These axes are typical for Sweden in a similar way and can also be considered typical for southern Russia. Similar hammers have also been found at Uelzen in Lüneburg, at Hebenkies in Westphalia and at Hildesheim.....

In Volhynia there were beautiful stone hammers and a large number of stone cones that had been drilled out, which indicates that they were worked on the spot. This is precisely where grain crushers, hewn saws,. These are surprisingly similar to the Danish ones in their deceptive resemblance; they are joined by large clay and red-stone cut vortices".

Montelius also came to the same conclusion on the basis of his own observations. At the international anthropologists' congress in Budapest, the aforementioned Swedish archaeologist commented on this as follows:

"Le fait que l'on a trouvé en Pologne et dans quelques parties voisines de la Russie une quantité assez considérable d'objets en silex des mêmes formes qui se retrouvent si souvent en Scandinavie et dans l'Allemagne du Nord: c'est-à-dire de petites haches et des ciseaux à coupe rectangulaire, des ciseauxroits, des pointes de lances, des têtes de flèches etc.. me semble digne d'une attention toute particulière."

"On trouve ces objets, dans le royaume de Pologne, en Lithuanie, dans les gouvernements de Toula et d'Orel en Russie et en Galicie.*

"In Poland and Galicia there are also a few examples of a flint object which, until recently, was only known from Scandinavia and northern Germany. It is the semi-circular scie. In the collections of Varsovie, Cracovie and Lviv, I have observed several specimens of this form caractéristique, originating from these countries."

"I would like to say that Mr. Filimonov had the privilege of showing me a very remarkable collection, deposited in this museum only a short time ago. This collection contains about 150 pieces, all of flint, and was formed by Mr. Strekalov during these recent years. Il y a là tous les types que j'ai déjà rencontrés: les petites haches, les ciseaux à coupe rectangulaire, les ciseaux étroits, les pointes de lances et de flèches et une scie semi-circulaire. Toutes ces pièces ont été trouvées dans les environs de la ville de Toula."

The presence of these types in the contrées prdcitees is cFau- tant plus remarquable que la plupart d'entre eux manquent totalement dans les autres parties de la Russie ainsi que dans les pays du midi, du center et de l'Occident de l'Europe."

„Les faits que je viens de signaler nous montrent que la même civilisation paraît s'être étendue pendant l'âge de la pierre polie non seulement sur la Scandinavie et l'Allemagne du Nord, mais aussi sur la Pologne et quelques parties de la Russie. It is important, however, to note that the objects in flint that we have written are almost totally unknown in the Baltic provinces of Russia, Courland, Livonia and Estonia, as well as in Finland. One has discovered many pierre objects, but flint is extremely rare." ²⁾

The identity of the Neolithic culture of Scandinavia with the Neolithic culture of southern Russia and the neighboring Polish countries, as established by the three archaeological authorities mentioned above, is all the more significant because at the same Budapest Congress the most important craniologists in Europe established the identity of the prehistoric skulls found in the same Russian-Polish countries, some of which belong to the Neolithic period, with the Eckers series cemetery form, i.e. the Germanic-Scandinavian skull form.)²

So in southern Russia and the neighboring Polish countries, too, we encounter genuine Aryans in the Neolithic period, with the same culture that existed in Scandinavia. The question now arises: Did the Aryans of Scandinavia come from southern Russia and the neighboring Polish lands or, conversely, did the movement from Scandinavia to the south and southeast take place?

¹)- Congrès international d'anthropologie et d'archéologie préhistoriques. Compte rendu de la 8^e Session, Budapest, 1876. Budapest 1877. I. 207.

²) Kopernicki, J., Nowy przyczynek do antropologii przedhistorycznej ziem polskich. W Krakowie 1877. p. 24. The same author had already recognized the great similarity between the dolichocephalic skulls found in the kurgans of eastern Galicia, the Ukraina and Belarus and the row grave skulls of southern Germany; cf. his Czaszki z kurhanów pokuckich. W Krakowie 1875. p. 24. It deserves to be noted that these prehistoric dolichocephalic skulls are considered by Kirkor, Samokwassoff, Bogdanoff and Virchow to be specifically Aryan-Slavic.

Penka. The origin of the Aryans.

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The examination of the archaeological facts alone - apart from all other factors - leads us to the conclusion that the movement must have taken place from Scandinavia and not the other way round, and that therefore only Scandinavia can be regarded as the homeland of the Aryans. As I will not go into a detailed explanation of the relationship between the older stone age, as represented by the Danish Kjökkenmøddinger, and the younger stone age of Scandinavia, which has found its most striking expression in the large stone graves and the polished stone artefacts, until later in these investigations, I will only say this much now, that there is no sharp contrast between the culture of the second period and the culture of the first period, but that both appear to be connected with each other by gradual transitions and that we have to regard only one race, namely the Aryan race, as the bearer of these two cultural phases. This race, however, when it immigrated to Denmark, was not at a significantly higher cultural level than that reached by Palaeolithic man during the Quaternary period: they were hunters and fishermen, without cattle breeding or agriculture. If we therefore assume that southern Russia and the neighboring Polish lands were the homeland of the Aryans, then we must also assume that they immigrated to Scandinavia with the culture of Paleolithic man, i.e. that they did not advance beyond the Paleolithic culture in their homeland before their first separation, an assumption that is sharply contradicted by the results of linguistic paleontology, which show that the Aryan primitive people were already cattle breeders, farmers and in possession of permanent dwellings.

The territory of the ancient Prussians and the Lithuanians, who were initially related to them, could be regarded as the original Aryan homeland with far more justification than Eastern Europe. It borders on the sea, possesses (or once possessed) all the animals and plants that are attributed to the primeval Aryan fauna and flora, its stone culture is essentially the same as the stone culture of the rest of Central Europe and Scandinavia, Aryan customs and beliefs have been preserved here longer than anywhere else in the neighboring countries, Lithuanian is the language that is closest to primeval Aryan among all the currently spoken Aryan languages of Europe and Asia,

the Aryan tribal name (Arja and Arman)^{*}) still appears here as the name of the people in the Middle Ages and has also passed from them to the country^{VI VII VIII}); finally, in this area skulls of the Eckers serial grave form have been found, namely in the Samland and in the area of the lower Vistula still from the time of the polished stones. ³⁾

And yet nothing is more certain than that the territory of the ancient Prussians and Lithuanians was not the original seat of the Aryans. Before the Germanic occupation, this area was in the exclusive possession of the aforementioned peoples and there is not the slightest evidence for the assumption that any other Aryan people inhabited this land before them. Now Lithuanian shows a phonetic phenomenon which it has in common only with Slavic and the Indo-Iranian languages: in a number of cases (16 in number) the original kh in the languages mentioned has been replaced by a sibilant (9 in Indo-Iranian, sz in Lithuanian and s in Slavic), while the other Aryan languages (Greek, Latin, Gallo-British, Germanic) have retained the guttural (or h). ^{IX X}) Since there can be no question of coincidence, it can only be assumed that the same phenomenon was brought about by the same cause. If the Prussian

VI) Penka, Orig. ariac. 36.

VII) Zeuss, Die Deutschen und die Nachbarstämme 657 remarks in the section dealing with the Prussians: "Warmienses Dusb., mentioned earlier from the time of Canute the Great, the Danish king (1st half of the 11th century): Po- meranos, Sclavos, Herminos et Samos, omnes paganis ritibus deditos, sibi fecit tributarios. Geneal. reg. Dan. ap. Langebek 2, 157; by Gervasius (c. 1211), Leibn. 2, 765: inter Poloniam et Livoniam sunt pagani, qui Jarmenses dicuntur. The inhabitants of Warmia (Wa r m i a frequently in documents, E r m land, O r m a l a n d in Old Norse writings. writings), on the Vistula Lagoon between the Pogesans, Galinden and Nattangen" . W (in Warmienses) and j (in Jarmenses) often appear in the lit. anlaut before vowels. Schleicher, Comp.⁸ 145.

VIII*) Lissauer, Crania Prussica. Journal of Ethnology. X. 130. It is incorrect, however, for Lissauer to declare all the skulls found in the province of Prussia and in Pomerania to be Germanic skulls of the Eckers type. Since the Germanic tribes were already familiar with all metals when they appeared in Central Europe, it is impossible that the skulls found in Samland and on the lower Vistula belonged to Germanic tribes from the Stone Age. Rather, we have to recognize in them skulls of the Aryan Prusso-Lithuanians from the Stone Age.

IX) Penka, Orig. ariac. 139.

If the Lithuanian area had been the homeland of the Aryans, then the same phenomenon would have to be found in all Aryan languages, since one would have to assume on the basis of Lithuanian alone that the factors which brought about the transformation of the kh into the sibilant had already asserted themselves before the first separation of the Aryan peoples, an assumption which, however, appears to be impossible precisely because of the fact that Greek, Latin, etc. have preserved the guttural. The Prussian-Lithuanian area cannot therefore be the homeland of the Aryans. It also follows, however, that the same can only be sought in the west of the Lithuanian-Slavic Indo-Iranian language area. But a second, no less important factor also speaks against the Prussian-Lithuanian hypothesis. Although numerous remains from the Neolithic period have been preserved in West and East Prussia and in the neighboring areas, no trace of the Paleolithic period has yet been found, *) a fact which proves that the transformation of the Paleolithic culture into the Neolithic did not take place in this part of Europe.

Nor could this transformation have taken place in today's Pomerania or Mecklenburg, because these lands, like West and East Prussia and the neighboring areas to the east and north, were glaciated and therefore uninhabitable for humans during the entire Quaternary period. In fact, not the slightest trace of his presence during this period has yet been found there. The oldest finds that have been made here belong to the Neolithic period.

VII.

The situation is different in one part of Scandinavia, namely Denmark. In this country there are remains of the Palaeolithic and Neolithic culture periods. As has already been noted, the Danish Stone Age is divided into an older period (the age of the Kjökkenmöddinger and the coastal finds) and a more recent period

) Tischler, A., Beiträge zur Kenntnis der Steinzeit in Ostpreussen und den angrenzenden Gebieten. Schriften der physikalisch-ökonomischen Gesellschaft zu Königsberg. 1882. 1. Abth. S. 30; Grewingk, C., Zur Archäologie des Balticum und Russlands. Archiv für Anthropologie. X. 317.

(Age of the dolmens). While the younger Stone Age is represented in all three Scandinavian countries, the older Stone Age is restricted to Denmark (and the outermost coastal area in the south of the Scandinavian peninsula). It is now of particular importance that some of the tools from this older Danish Stone Age show a marked resemblance to the tools from the Palaeolithic period found in England, Belgium and France, from which it has been rightly concluded that they were brought to southern Scandinavia from western and south-western Europe by the first immigrants, i.e. that the first settlement of Denmark took place from this part of Europe.)^x

No less important is the fact that tools have been found in the Danish Kjökkenmöddingern that have the character of transitional forms between the Palaeolithic and Neolithic tools, which thus indicate that the transformation of the Palaeolithic culture into the Neolithic culture took place in Denmark.

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The question now arises: Were these first settlers of Denmark Aryans and were they the ones who brought about the transformation of the Paleolithic culture into the Neolithic culture in this country?

This question has been answered in various ways by Danish prehistorians. In Steenstrup's opinion, the Kjökkenmöddinger and the dolmens belong to one and the same people and one and the same age, and he is even inclined to assume that the Kjökkenmöddinger are younger than the dolmens.²) Since, as has been shown above, the builders of the dolmens were Aryans, the people of the Kjökkenmöddinger, if Steenstrup's assertion is correct, must also be regarded as Aryans. However, Steenstrup stands alone with the second part of his assertion. The

?) Worsaae, Des âges de pierre et de bronze danc l'ancien et le nouveau monde. Memoires de la Societe royale des Antiquaires du Nord. Nou veile serie. Copenhague 1880. P. 138; Congres international d'anthropologie et d'archéologie préhistoriques. Compte rendu de la 4^e session, Copenhague 1869. Copenhague 1875. P. 148.

²) Compte rendu du Congres de Copenhague 159.

The majority of Danish, Swedish and Norwegian archaeologists (Worsaae, Engelhardt, Soph. Müller, Vedel, Montelius, H. Hildebrand, Undset and Lorange) have recognized that the Kjökkenmöddinger people are far older than the dolmens and that they represent the oldest period of the Nordic Stone Age. Worsaae also regards the Kjökkenmöddinger people as a different people from the Dolmen; he assumes that the latter immigrated later, also from southern and western regions, and influenced the primitive culture of the Kjökkenmöddinger people. "It is not in itself improbable," he says, "that the older hunters and fishermen in Denmark were influenced by the higher culture that was increasingly gaining a foothold in the immediate vicinity and that they initially endeavored to acquire the better weapons and tools that accompanied it. This is supported by the fact that several finds, which are characteristic of the early Stone Age, contain some beautifully shaped and better crafted tools. Other finds seem to indicate that some of the older inhabitants gradually adopted the new culture and changed their way of life to a greater or lesser extent. There was plenty of time for such mixtures and transitions before the new culture had spread over the whole country. On the other hand, this culture could not have been introduced by the older inhabitants alone. If this were the case, the uniform transitions everywhere would be much more frequent. However, the content of the monuments preserved from the older Stone Age stands in sharp, definite contrast to the strikingly similar content of all stone tombs and passage constructions, as well as to the larger collected finds from the later Stone Age, not only in Denmark alone, but also in the neighboring countries to the south and west. It is absolutely inconceivable that a tribe as raw and isolated from the rest of the world as the original inhabitants of Denmark could have been able, before other peoples of equal status, not only to suddenly and comprehensively adopt a foreign higher culture, but also to bring it to a level of development unknown elsewhere. Quite apart from the eloquent content of the tombs, the view of their distribution and the great cultural achievements they contain would simply have to coincide.

The fact that the buildings in the north and in other countries are so numerous and so numerous leads inevitably to the realization that in the south and west they originate first or preferably from a new, powerful people, which slowly advanced towards the north and before which the older and weaker hunters and fishermen had to disappear or sink into dependence and servitude." ^{XI)}

If these statements were correct, if the people of the later Stone Age of Scandinavia were really a different people from the people of the older Stone Age of Denmark, then the latter - since the former were undoubtedly Aryans - could not be regarded as Aryans and the hypothesis based on the common assumption that Scandinavia is to be regarded as the "homeland" of the Aryans would thereby be deprived of its actual foundation. It is easy to show, however, that an unbiased examination of the actual circumstances, uninfluenced by the principle always favored by the older Nordic archaeologists of attributing every new cultural phase to a new immigration, leads to precisely the opposite conclusion than the one reached by Worsaae.

If the Kjökkenmöddinger people were not Aryans, what kind of people were they? One could initially think of a Turanian people, such as the Lapps. However, there is not the slightest clue to this assumption and it is precisely Worsaae himself who, because of the striking difference between the Lappish-Finnish ("Arctic") stone age finds and those found in southern Scandinavia, decisively rejects such an idea (see p. 6).²⁾ And even less could

XI Worsaae, Prehistory of the North 30.

²⁾ With the same decisiveness and the same archaeological arguments as Worsaae, H. Hildebrand also rejects the assumption that the Lapps were the first inhabitants of Scandinavia. "Si l'on compare les antiquités de ce groupe arctique avec les antiquités de la Finlande, de la Russie septentrionale et de la Sibirie," he said at the congress in Stockholm ("Compte rendu" I. 208), "il est évident qu'il existe une ressemblance étonnante entre toutes ces antiquités et les antiquités du nord de la Scandinavie. C'est absolument la même civilisation ou le même commencement de civilisation. 11 It is clear that there is a relationship between the Arctic groups of Scandinavia and those of Finland, Russia and Siberia, and even that there is a relationship between the age of the tail and the age of the pole in the Mediterranean part of Scandinavia and in the east of Europe."

It could have been Iberians or a people related to them. It can be proven that after the end of the Quaternary period, Iberians spread from south-western Europe to France, Belgium, England and Ireland, and we also know that this element still makes up a not inconsiderable part of the populations of all these countries. However, there is not the slightest trace of this element in the Scandinavian countries, neither at present nor in any period of the past. Chauvaux on the Meuse (between Dinant and Namur in Belgium) is the easternmost cave in Central Europe where traces of this dark, long-headed race from the Stone Age have been observed. And apart from these three races - the Aryan, Turanian and Ibero-Semitic - there is no other race whose existence in Europe can be proven for any period.

Worsaae does not consider the transitional forms found in Denmark to be numerous enough on which to base the assumption that the people of the older Stone Age worked their way up to the culture of the younger Stone Age; he explains these transitional and mixed forms by the influence that a stronger and more educated conquering people, which gradually advanced from south to north, is supposed to have exerted on the older hunter-fisher people. If this assumption were correct, we would expect it to be confirmed at least by archaeological evidence. However, this is not the case. When a conquering people advances - and Worsaae himself assumes that his conquering people advanced slowly - then, as a rule, the former population tends to retreat slowly before it and only the part that is prevented from making such a retreat falls into dependence and servitude. If Worsaae's hypothesis were correct, then we would expect the older population to have retreated to the central and northern parts of Scandinavia and their traces would still be detectable in these parts. In fact, however, only on the outermost coasts in the south and south-west of the Scandinavian peninsula, as far as the southern tip of Norway (Lister), have individual scanty traces of the older Stone Age been found, which, moreover*, as Worsaae himself remarks, present a mixture of older and younger types and consequently belong to the

The most recent finds are probably from the older period.^{XII}) All other finds of stone artifacts that have been made on the Scandinavian peninsula - apart from the Lapp-Arctic zone - belong to the age of polished stones.

Worsaae is not at all of the opinion that the Neolithic culture originated on European soil, but believes that just as the first humans came from Asia, namely from India, this culture was also brought to Europe by new immigrants from older cultivated countries in Asia and Africa. "The occurrence and the peculiar and yet generally unmistakably similar nature of these stone tombs, which can be traced as far as North Africa and inner Asia, make it highly probable, that the culture of the more recent period of the southern and western European Stone Age, which emerges from them as from the pile dwellings and other monuments from that time, is due to foreign influences, perhaps repeated influxes of new immigrants from older cultivated countries in Asia and Africa, who may have been of different origins, but were nonetheless bearers of a culture that was common in its main features. Tribes as wild as the first inhabitants of southern and western Europe seem to have been do not tend to make any particular progress in culture without foreign influence or a strong mixture with foreign elements." ²)

However, we not only know the spread of the Neolithic culture, we also know its bearers; these were the Aryan peoples, i.e. peoples of a type that currently only has numerous representatives in northern and central Europe and whose characteristic features are: blond hair, blue eyes, white skin, dolichocephalic skull structure and tall stature. And this human race, which, according to Worsaae's hypothesis, we would have to assume with regard to the Hellenes that it brought its characteristic features with it from Asia, should have originated there? in a part of the world where only scanty traces of the Aryan type have survived despite the large number of people who speak Aryan languages?

XII) Worsaae, op. cit. 22.

*) Worsaae, op. cit. 18.

In fact, it was also this anthropological point of view that led General Faidherbe to assume the opposite direction for the migration of those people who erected dolmens along the shores of the Baltic and North Seas, the Irish Sea, the Atlantic Ocean and the Mediterranean Sea. "Nous sommes," he said in his lecture on the dolmens of Africa at the Brussels Congress, "porté à croire que depuis la Poméranie jusqu'à la Tunisie les dolmens ont été élevés par un même peuple. De plus, conformément aux raisons données par M. Bonstetten, nous pensons que l'usage des dolmens a été importé du Nord au Sud, et non en sens inverse." "Le point de départ bien constaté des grands groupes est sur les bords de la Baltique, patrie de la race blonde, depuis les temps historiques, et leur point de terminaison est en Afrique, c'est à dire, dans une partie du monde où les habitants ne sont rien moins que blonds. That would be embarrassing, given three circumstances which, on the contrary, seem to shed light on the issue:

1. Dans la Berberie on trouve encore aujourd'hui quelques blonds disséminés dans la population brune;

2. Les historiens grecs et latins constatent qu'il s'y trouvait déjà des blonds agglomérés avant J.-C.;

3. Les annales égyptiennes nous apprennent que, 500, 1000, 1500 ans avant J.-C., des populations blondes considérables venaient, de cette même contrée, assaillir la Basse Égypte. D'après cela, il est évident, pour nous, que ce sont les blonds du Nord de l'Europe qui ont laissé cette traînée continue de dolmens jusqu'en Afrique, dans les temps qui, d'après les annales égyptiennes, doivent être reculés jusqu'à plus de 1500 ans avant J.-C.^a *) Not only the complexion, but also the shape of the skulls and the stature of the African dolmen builders point to northern Europe. Faidherbe has found an average index of 75 from 18 skulls found in dolmens and expressly remarks: "Rien, suivant nous, ne s'oppose à ce que la plupart des éranes de Roknia soient attribuées à la grande race blonde du Nord de l'Europe, race qui était plus distincte, il y a quelques milliers d'années qu'aujourd'hui . . .^{w2}). The same researcher calculates the average height of men at 1.74 m, a height that is also only attributed to the blond race.

*) Compte rendu 409.

²) A. a. O. 420.

In the discussion that followed this lecture, Cartailhac put forward another aspect that is worthy of note and that speaks in favor of the migration from north to south. The megalithic monuments of southern France contain numerous bronze objects that are not found in the megalithic monuments of central and northern France. If the builders of the megalithic monuments had migrated from the south to the north, the use of bronze would have spread northwards with them, for it is impossible to see why they should have abandoned this prized metal. From this circumstance, however, it follows that the migration must have taken place in the opposite direction, i.e. from north to south.)¹

Faidherbe and other researchers have asserted that the dolmens were erected by one and the same people. If the word "people" is to be taken in the sense of "race"⁴ *, there can be no objection to this assertion. For it was in fact the Aryan race that erected these stone tombs wherever they appeared, in Europe, Asia and Africa. But if the word "people" is used in the usual sense, then the assertion is certainly incorrect. According to H. Martin's explanations²) there cannot be the slightest doubt that it was the Aryan, and specifically the Gallo-British, and not the Iberian or Turanian element that erected the dolmens in France and on the British Isles as well as in Spain and Portugal; however, it would be wrong to attribute the erection of dolmens to the same Gallo-British people wherever they are found, ^e.g. the erection of the dolmens in the Mediterranean and the British Isles. For example, the erection of dolmens in the Scandinavian countries, however much they may resemble the English, Irish, French, Spanish and Portuguese. To this assumption, however, one would be

A. a. O. 429. Also Broca (Les peuples blonds et les monuments megalithiques dans l'Afrique septentrionale. Revue d'anthropologie. 1^{re} ser. V. 393-440) attributes European origins to the builders of the dolmens in North Africa: "L'origine europeenne des blonds de l'Afrique septentrionale etant tout aussi certaine que celle des dolmens de la meine region il est tout naturel de penser que ce double fait a ete la consequence d'une seule et mdme invasion". Op. cit. 393.

²) Congres international d'anthropologie et d'archeologie prehistoriques. Compte rendu de la 2^e session, Paris, 1867. Paris 1868. p. 211.

if Worsaae's assumption that the culture of the later Stone Age was brought to the Nordic countries by new immigrants from the west and south were correct. For in the aforementioned western and southern countries we know of no other Aryan people from the pre-Roman period than the Gallo-British. But that Gauls or Britons ever lived in the Scandinavian countries lacks even the slightest evidence. On the contrary, the ethnological facts speak against this assumption in the most decisive way. For if the inhabitants of Scandinavia had been Gauls or Britons in the Stone Age, we would probably encounter the same phenomenon here as on the British Isles, in Belgium and in France: remnants of these peoples would probably have survived at least into historical times. However, as we know, this is not the case.

As mentioned, there are two factors that led Worsaae to assume that the inhabitants of Denmark in the Early Stone Age were a different people from the inhabitants of Scandinavia in the Later Stone Age: firstly, in his view, the insufficient number of transitions and, secondly, the low level of talent of the Kjökkenmøddinger people, as a result of the meagre and crude nature of their culture. As far as the first point is concerned, the allegedly small number of transitional forms cannot in the least diminish the importance of the fact that such transitional forms exist at all. Every advance of mankind originates with single individuals and, once recognized as such, often spreads with extraordinary rapidity beyond the narrow circle of the first inventor. As a rule, others are spared the laborious experiments of the latter. And when Worsaae draws a conclusion from the crudity and paucity of the culture of the older stone age as to the talent of its bearers, which he estimates so low that he does not even attribute to them the ability necessary to adopt a foreign higher culture and to develop it further independently, he overlooks an important circumstance that must never be overlooked when assessing the intellectual ability of a people. Nowhere are there such great differences in the cultural development of the peoples of one and the same race as among the peoples of the Turanian race. Besides highly civilized peoples,

As with the Chinese, for example, there are peoples who have not yet progressed far beyond the first beginnings of all culture, such as the Siberian peoples. What a difference between the culture of the Magyars and the culture of the Ostyaks and Voguls, who were initially related to them! And yet it would be wrong to attribute a lesser talent to the Ostyaks and Voguls than to the Magyars. If, however, this is done despite the fact that the physical and mental habitus of all these peoples is otherwise similar, it overlooks the fact that every higher cultural development requires not only a higher mental aptitude of the people, but to no lesser degree favorable external conditions, such as fertility of the soil, appropriate climatic conditions, etc., as a prerequisite. If this latter condition is lacking, then any people, however highly inclined, will struggle in vain to advance to a higher culture.

Not only the inhabitants of Central Europe lived in such unfavorable external conditions during the Quaternary period, but also the first inhabitants of Denmark at the beginning of the post-Quaternary period. As is well known, the forest vegetation of the country has undergone radical changes over time: the aspen was followed by the spruce, which was later replaced by the oak, until finally the latter was also largely replaced by the alder and the beech, the latter tree still being the most widespread there today. There can be no doubt that this change in vegetation, through which forest trees of the temperate zone took the place of forest trees of the cold zone, was only possible as a result of a change in climate, indeed it was a prerequisite for such a change.^x) These processes, which took place after the end of the Quaternary period, have their analogy in the processes known to us from the beginning of this period. For at that time

^j) It was Steenstrup who first observed this succession of tree vegetation on Zealand; later, together with Nathorst, he succeeded in detecting the glacial flora under the trembling poplar layer. Elias Fries has also shown that in Sweden, *Populus tremula*, *Pinus silvestris*, *Quercus sessiliflora*, *Ainus nicana* and *Fagus* dominated one after the other around the forest bogs, which are found spread out on the erratic period's crust bed. "Since this sequence is now observed in all peat bogs and the trees mentioned have also developed almost equally in the Norwegian peat bogs investigated so far

conversely, as a result of the gradual glaciation of northern and central Europe from north to south, the polar tree flora, above all the conifers, had advanced into central Europe, where it had displaced and replaced a subtropical flora with evergreen leaves. Now it is certain that even then, when the spruce was the only forest tree in Denmark, this land was inhabited by people. The fire marks left by some spruce trees and the rough flint tools found in the layers of spruce in the peat bogs are full proof of this according to Steenstrup, who even pulled a stone axe out of one such peat bog with his own hand, which was still stuck in the trunk of a spruce tree. The results of studies of Denmark's prehistoric fauna also lead to the same conclusion. The Benn is no longer found in the Kjökkenmöddingern, which is proof that it soon moved away as a result of the climate change. On the other hand, the fact that the large alkali which is currently said to occur only in Greenland and Iceland, can be deduced from the fact that it is found in the same area

It can be concluded that, at least for a time, Denmark's climate at that time was closer to the polar climate than the climate that prevailed in this country from the oak and beech period onwards.

If we consider, therefore, that the climatic conditions and with them the external conditions of culture became more and more favorable, if we further consider the long period that elapsed from the day of the first settlement in Denmark to the beginnings of the Neolithic culture - Steenstrup believes, Steenstrup believes that 10-12 thousand years were required for the accumulation of the Kjökkenmöddinger and the change of the forest tree vegetation, we can easily assume that the people of the older stone age were able to make the transition to the younger stone age alone and without outside help. This also eliminates the necessity of Worsaae's assumption that the culture of the younger stone age can be traced back to the immigration of a new people.

only with the difference that there a mixed vegetation of *Quercus* and *Ainus* is not followed by *Fagus*, but again by *Pinus silvestris*, so is here indeed also in climatic changes after the glacial period and not just think of local causes." Engler, A., *Attempt at a Entwicklungsgeschichte der extratropischen Florengebiete der nördlichen Hemisphäre*. Leipzig 1879. p. 191.

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Incidentally, Engelhardt, the former curator of the Old Norse Museum in Copenhagen, does not accept two different peoples as the bearers of the two cultural periods; for him they are merely two phases of one and the same cultural development, separated in time but all merging into one another. The same man expresses himself in the following way: "If the giant chambers and dolmens with their contents of weapons, polished stone tools and other implements belong to a period that comes very close to the beginning of the Bronze Age, probably extends into it and could therefore in some cases be simultaneous with it, - and if the flint pieces collected in the Kjökkenmöddingern and the flint pieces collected as coastal finds essentially served as implements. If the flint pieces collected in Kjökkenmödding and the coastal finds must have essentially served as implements, but are nevertheless so different in shape, size and workmanship

from the pieces known from the first-mentioned sites, it seems likely that this difference can also be explained as a difference in time. However, even if one is justified in distinguishing between a younger and an older period within the Stone Age, the duration of which we can probably estimate at one or several thousand years, this does not mean that the transition between them was a sudden one. On the contrary, several factors seem to indicate a gradual transition between what we regard as the oldest and what we regard as the youngest period. Nor have we yet come so far as to be able to say for each individual object whether it belongs to an older or younger division of the stone age. But this is already an important step forward, insofar as the main direction in the course of development has been correctly demonstrated in such a way that a culture has emerged here from the cruder and less developed culture, which has left behind so-called monuments of its development in the giant chambers."¹)

Worsaae himself also developed views on the relationship between the two stone ages at the Stockholm Congress (1874),

¹) Aarbøger for Nordisk Oldkyndighet og Historie. 1868. p. 92. He made additional statements on this question at the Stockholm Congress. Compte rendu. I. 149.

which correspond exactly with Engelhardt's view. His own words are: "Certainement, dans l'ouest de l'Europe, les hommes habitaient à une époque plus reculée que celle de leur habitation dans le Nord. Ils sont arrivés dans ce pays avec ces types de silex bien connus; mais, comme ils étaient dans un pays riche en beaux silex, ils ont développé et perfectionné la fabrication des Instruments, et ils sont arrivés, à la fin de l'âge de la pierre, à développer les types du groupe scandinave et danois."¹) He also noted of the oldest monuments of Schonen that they were rightly seen as the transitional epoch between the Palaeolithic and Neolithic periods.³) The English archaeologist J. Evans also subscribed to these views: "Je suis heureux d'être d'accord avec M. Worsaae. D'après ce qu'il vient de dire, il divise l'âge de la pierre en Danemark en deux parties qu'on ne peut séparer, et dont Tune est plutôt une transition qu'une Époque/"⁸) Torell also states that in the Scandinavian north the remains of a cultural period are present, which seems to insert itself between the Renntierzeit and the age of polished stones. "Le jour viendra aussi, sans nul doute, où Ton sera mis en demeure de distinguer dans le vaste âge de la pierre une subdivision nouvelle, la période mésolithique."

The great significance of this evidence of such a transitional period between the Palaeolithic culture of the Quaternary period and the Neolithic culture of the post-Quaternary period in the Scandinavian north lies in the fact that, as we shall see later, such a transitional period cannot be proven anywhere else in Central and Northern Europe, i.e. the part of Europe in which the homeland of the Aryans must be sought. This evidence therefore also proves that the Scandinavian north is the homeland of the Aryans.

¹) Compte rendu. I. 146.

²) A. op. cit. I. 143.

³) A. a. O. I. 147.

⁴) A. a. O. II. 876.

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As carriers of the Neolithic culture in Scandinavia, we have come to know people of an undoubtedly Aryan type; we have also seen that this Neolithic culture developed on Danish soil from the Palaeolithic culture of the Quaternary period and that the Palaeolithic tools of the Kjökkenmödinger and the coastal finds, because of their great similarity to the tools found in the west and south of Denmark, indicate that the first colonizers of Scandinavia came from Central Europe (Belgium, France, Germany); we have also seen that there is no reason to assume that the people of the Early Stone Age in Denmark were a different people from those of the Later Stone Age: all these moments lead us to expect that among the Palaeolithic inhabitants of Central Europe we should find people of the Aryan type. This is indeed the case. This can be seen above all from a comparison of the skulls. Compare, for example, the description given by de Quatrefages of the skull shape of his Quaternary Cannstatt race with the description that Ecker gives of the Germanic row grave form, and you will find that both descriptions agree completely in the main points.^x) However, it has now been objected that not all of the skulls combined by Quatrefages in his Cannstatt Race belong to the Quaternary period. For example, H. von Hölder has raised very serious objections to the great age attributed to the skull from Cannstatt, from which Quatrefages borrowed the name for his oldest fossil race; similarly, more detailed investigations have shown that the skull from Brück does not belong to the Quaternary period at all.²) On the other hand, the Quaternary origin of other skulls and skull parts is unclear.

¹) Penka, Orig. ariac. 85.

²) The only skull found so far in Austria that can be attributed with a high degree of probability to the Rennthier period is the skull found by J. Szombathy in 1881 in the Lautsch Cave (near Littau in Moravia) and preserved in the Imperial Royal Museum of Natural History in Vienna; it is dolichocephalic and possesses all the characteristic features of the serial burial skull. Cf. Szombathy's report on the find and a brief description in the Sitzungsberichte der mathematisch-naturwissenschaftlichen Classe der k. Akademie der Wissenschaften in Wien. LXXX, 105.

or have the concerns about their great age been successfully dismissed: this is where the skull from the Neanderthal period belongs, that of Engisheim, Engis, Olmo and others.

It is now interesting to see with which younger skulls these skulls from the Diluvium have been compared. Schaaff-hausen notes that the Neanderthal skull is very similar to No. LXIII of Blumenbach's *Decades Craniorum*, which depicts the skull of a Dutchman from the island of Marken (*Batavus genuinus*).¹) Pruner-Bey considers it to be the skull of a "Celt"; "d'abord," he says, "il appartenait à un individu de haute taille, il est volumineux et dolichocéphale; il présente la rainure au tiers postérieur de la suture sagittale commune aux Celtes et aux Scandinaves; enfin la saillie occipitale également caractéristique pour les deux races."²) It was precisely this great similarity that Pruner-Bey had to use to combat the view of the great age of the Neanderthal skull, which contradicted his theory of the first inhabitants of Europe. Also at the Paris Congress (1867), where Broca proved against Pruner-Bey that dolichocephalic humans had already lived in Europe during the Quaternary period,³) the latter declared with regard to the Neanderthal skull: "Je vois rien de particulier sur ce crâne comparativement à d'autres de la race aryenne, si n'est une saillie excessive des arcs sourciliers dépendant d'un grand développement des sinus frontaux."⁴) He gave a similar verdict on the skulls of Lahr, Engis and Engisheim: "Bien que leur partie anatomique soit incomplète, puisque la face manque à tous les crânes, j'incline cependant, à les classer avec les dolichocéphales aryens, ce qui résulte d'ailleurs des comparaisons que j'ai établies plus haut." K. E. von Baer was also inclined - in 1863 the great age of dolichocephalians in Europe had not yet been established beyond doubt - to regard the Neanderthal skull as a "Celtic" or Cymbric skull with unusually strong development of the superciliary arches and flatness of the forehead.⁵)

¹) *Bulletins de la Société d'anthropologie de Paris*. 1^{re} ser. IV. 317.

²) *A. a. O.* 319.

³) *Compte rendu* 367-402; cf. also Broca in the *Bulletins de la Société d'anthropologie de Paris*. 2^e sdr. III. 462.

Compte rendu 358.

⁵) *Bulletin de l'academie imperiale des Sciences de St. Pétersbourg*. VI. 351.

These voices are now joined by Virchow's voice. He remarks of the Engis skull: "The famous Engis skull, which is unique in terms of its age, as well as the accompanying child's skull that confirms it, is so exquisitely dolichocephalic that, if one could consider oneself justified in forming ethnological groups solely on the basis of skull shapes, the Engis skull would undoubtedly be a Proto-Germanic one and proof would be provided that a Germanic population had already settled on the Meuse before the first Mongolian immigration."¹) And in his lecture on the prehistoric relations between Germany and Italy, given on March 15, 1884 at the Berlin Anthropological Society, he also touched on the hypothesis of the European homeland of the Aryans, which had recently been put forward by several scholars, and made the following remarks: "If one takes craniology into consideration, I must openly confess that there is much to be said for this idea - that Europe is the homeland of the Aryans. For if, for example, the skulls of the Frankish row graves are taken as the basis of consideration, as Mr. Lindenschmit does, it cannot be denied that the graves of the Neolithic period provide multiple points of comparison; indeed, it cannot be denied that a large number of individual finds, which reach into the diluvial period, also present a similar formation, e.g. the famous skull of Engis in Belgium, which falls entirely within this area. The French have extended the comparison still further; they have established the race of Cannstatt, because a skull was found in Cannstatt in apparent connection with Mammuth, which reaches into related forms. Enough, one could establish a kind of autochthony of the peoples in the north formed according to the Germanic type." ²)

It should also be noted that the extremely strong development of the eyebrow arches, which characterizes the dolichocephali of the Quaternary period, is also an outstanding feature of the Scandinavian dolichocephali of the Neolithic period, as shown by

¹) Negotiations of the VII General Assembly of the German Society for Anthropology, Ethnology and Prehistory in Jena in 1876. 8. 92.

²) Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1884. S. 210.

von Düben in his description of the skulls found in the Westgothland passage graves (see p. 10).

The proof that people already lived in Central Europe in the Quaternary period, whom we must consider for craniological and archaeological reasons to be the ancestors of the later Aryans, i.e. that Aryans already inhabited Central Europe at a time when their culture was still far behind the culture that linguistic paleontology teaches us as the culture of the still undivided Aryan primitive people, which linguistic palaeontology teaches us as the culture of the still undivided original Aryan people, the European origin of the Aryans is simultaneously proven and the assumption that they only came to Europe from Asia in the Neolithic period or even later is refuted in the most convincing way^x).

IX.

If the Aryans already inhabited Central Europe during the Quaternary period, why is it that they did not advance beyond the primitive stage of the Paleolithic culture, but that they only developed the Paleolithic culture into the Neolithic culture on the soil of Scandinavia after the end of the Quaternary period, and is the statement that there is no evidence of a transition between the two cultural periods in Central Europe correct?

It has already been noted above that northern and central Russia, eastern and western Prussia, Pomerania and Mecklenburg were not inhabited by humans during the Quaternary period. These countries, like the Scandinavian countries²), were glaciated and consequently uninhabitable for humans. On the other hand, it is undoubtedly certain that in the other countries of Central and Western

¹) Just for the sake of historical interest, it should be mentioned that some researchers, for quite inadequate reasons, have mistaken the inhabitants of Europe during the Quaternary period for Eskimos.

²) The assumption that Sweden was already inhabited during the Quaternary period was refuted by O. Tor eil in his lecture given at the Stockholm Congress "sur les traces les plus anciennes de l'existence de l'homme en Suède" (Compte rendu. II. 861-876).

The human being already lived in Europe during the Quaternary period. In addition to human bones and skulls, the numerous remains of his activities testify to this: tools, jewelry, etc. ' These remains of the Palaeolithic-Quaternary culture, with regard to their relationship to the remains of the Neolithic-Post-Quaternary culture, have given rise to a controversial issue which is one of the most important questions in prehistoric archaeology and which, as it is finally resolved by the Scandinavian hypothesis, also serves to support it: the question of the so-called hiatus.

The importance of this question will require a somewhat more detailed explanation.

E. Lartet was the first to perceive a sharp break between the Palaeolithic and Neolithic

periods. His view on this was revealed by the arrangement he made at the Paris World Exhibition of 1867 in the arrangement of the stone tools of the two periods. This idea was also adopted by other researchers. At the Copenhagen Congress (1869), Roujou proclaimed the hiatus theory in its full force. "En effet," he said, "entre l'âge de la pierre décalée et celui de la pierre polie l'hiatus est énorme, et pour expliquer l'apparition d'une civilisation si profondément différente il y a fallu supposer l'arrivée d'une race nouvelle et plus intelligente."¹) A year later (1870), F. Forel published a work on archaeological chronology in which he noted the existence of a gap at the end of the Palaeolithic period and sought to determine its significance. "Je veux essayer," he said, "de faire comprendre que la lacune qui sépare l'âge du renne de l'âge de la pierre polie est considérable, mais qu'elle n'est pas énormément grande." ²) This theory took on even greater significance when G. de Mortillet seized upon it and advocated it with particular determination. This first happened at the Brussels Congress (1872). "Entre les diverses époques paléolithiques," he said there, "on suit le développement régulier et logique de l'industrie; on en trouve des transitions et des passages. Des degrés, des points intermédiaires peuvent encore

¹) Compte rendu 63.

²) Bulletin de la Société vaudoise des Sciences naturelles. X. 559-590.

fait défaut, mais on sent, on reconnaît qu'il y a suite continue. Il n'en plus de même entre le paléolithique et le néolithique, entre le magdalénien et le robenhausien. Il y a là une large et profonde lacune, un grand hiatus; il y a une transformation complète. Avec le magdalénien disparaissent les animaux quaternaires, le grand ours, le mégacère; avec le magdalénien émigrent les espèces des régions froides qui peuplaient nos plaines; le renne, le glouton, le bœuf musqué, remontent vers le pôle; le chamois, le bouquetin, la marmotte, gagnent le sommet neigeux de nos montagnes. With the robenhausien, not only the instruments in polished stone, but also the pottery, the monuments, dolmens and menhirs, the domestic animals and the agriculture were added. It is therefore a complete change."¹)

At the same congress, Dupont also noted the same hiatus for Belgium that Lartet, Roujou and Mortillet had noted for France. "Nous constatons," he said, "que le travail du silex a suivi une Evolution graduelle et continue depuis les peuplades de Montaigne jusqu'à celles de Chaleux et de Furfooz. L'industrie de chacune de ces peuplades procède, par des rapports intimes de forme et de fabrication, de l'industrie troglodytique qui la précède, et nous pouvons suivre, dans leurs produits successivement modifiés, les variations des mœurs et les tendances du développement des populations de nos cavernes. Mais* lorsque nous comparons ce travail à celui des silex œuvres que la géologie indique comme postérieurs et qui ne sont autres que les témoins de l'âge de la pierre polie, une solution de continuité se prononce immédiatement en ce point dans la Série: il est absolument impossible de faire procéder, par voie de perfectionnement, les Instruments de cet âge des produits des troglodytes." After mentioning as a further argument the fact that the inhabitants of Belgium worked flint from Champagne during the Quaternary period, while in the Neolithic period flint from Hainaut was used to make tools, he concludes: "Nous constatons donc en Belgique, par des faits très concluants, l'hiatus ethnographique signalé en France par Edouard Lartet et confirmé par M. de Mortillet."^{XIII}) . In the course of his lecture, Dupont returns to this question and remarks that there is as yet no evidence of a

XIII) Compte rendu 440.

²) Compte rendu 464

between the tools of the troglodytes and the tools of the Neolithic age. "Ces deux genres d'industrie restent distincts, sans qu'on ait pu constater de filiation entre eux, et l'art de polir le silex, dont l'apparition est accompagnée d'une série d'instruments étrangers aux troglodytes, paraît évidemment avoir pris naissance, dans l'Europe occidentale, sous une influence tout autre que les progrès des peuplades qui choisissaient les cavernes pour demeures.^{44 *})

And yet Dupont believes that there is no absolute contrast between the stone tools of these two periods, but that the similarity of certain stone tools common to both periods, such as the scraper, allows the assumption of a certain relationship. "On doit, en effet, rechercher, non pas dans le travail perfectionné, mais dans le travail préparatoire les ressemblances entre l'industrie d'une phase de développement plus avancé et l'industrie plus grossière d'une époque antérieure."

Alongside Mortillet, Cartailhac is the most resolute proponent of the hiatus theory. In his lecture "sur l'intervalle des deux grandes périodes de la pierre", also held in 1872 and dealing with this question,⁴⁴ he states that the hiatus exists in both faunistic and archaeological terms. In the latter respect in particular, the gap seems to him to be complete. "Il suffit," he said, "de jeter les yeux sur une collection, pour reconnaître non seulement que l'industrie nouvelle n'est pas la suite de l'industrie précédente, mais encore qu'il n'y a aucun point de contact, aucun point d'imitation. Certes, un poinçon est toujours un poinçon, des couteaux de silex se ressemblent toujours; mais en dehors de quelques pièces qui naturellement doivent être identiques les autres sont totalement différentes."⁴²) He also defended this theory at the Brussels Conference.³⁾

The first detailed refutation of this theory was attempted by Cazalis de Fondouce in 1874.

⁴) From the anthropological as well as the geological, faunistic and archaeological point of view

¹) A. a. O. 472.

²) Matériaux pour l'histoire primitive et naturelle de l'homme. VII. 327.

³) Compte rendu 452.

⁴) Cazalis de Fondouce, Pierre taillée et pierre polie, lacune qui aurait existé entre ces deux âges. Revue d'anthropologie. I^{re} sér. III. 613-632. the same seems to him untenable. "Nous ne dirons pas," he concludes his remarks, "avec les partisans de l'hiatus, que l'on constate une lacune, une interruption, un abîme entre l'âge de la pierre taillée et celui de la pierre polie, que les grottes et le pays lui-même paraissent avoir été un moment privés d'habitants. Nous concluons, au contraire, que le changement s'est fait lentement, qu'il s'est poursuivi sans interruption depuis le commencement de l'époque paléolithique jusqu'à nos jours; que pendant ce temps des races d'hommes différentes, chez certaines desquelles a pu s'élaborer en partie l'âge néolithique, ont pu vivre juxtaposées dans nos climats; que le climat, devenu peu à peu plus doux dans nos contrées, y a attiré successive de nouvelles races qui ont apporté dans les arts et dans l'industrie des éléments nouveaux, et leur ont imprimé des impulsions qui en ont modifié la direction quelques fois d'une façon complète; finally, that these new races are insensibly substituted for the previous ones by absorbing them without destroying them, so that the return of particular

characteristics to them in the midst of the rest of the new ethnic groups."

From an anthropological point of view, he argued that the ancient races have persisted through the Neolithic period to the present day. He first mentions the statement made by de Quatrefages at the Brussels Congress. "Il me parait absolument impossible de refuser aux hommes qui ont vécu en même temps que le mammouth, le renne, le rhinoceros, une part dans la formation des populations actuelles. Plus je vais, plus je vois et compare, plus je suis convaincu que cette part est très-grande et qu'une bonne partie de nos contemporains se compose des descendants des hommes fossiles que nous étudions ici en ce moment. " *) He also remembers the powerful impression it made on Hamy when he saw that certain inhabitants of Hainaut surprisingly show the traits of the Neanderthal race.²) Similarly, a skull found in a Roman-Gallic burial site and described by Sabatier also bears the traits of this race. He further notes that de Quatrefages encountered the type of Cro-Magnon man in the Landes, while Hamy encountered the same type elsewhere. He then also borrows some

¹) Compte rendu 582.

²) A. a. O. 555.

Arguments from a lecture given by Broca at the Lyon meeting of the "Association française". If the shape of the skull possibly changes with the way of life, if civilization somewhat reshapes the human head, then one finds indelible racial features in other parts of the skeleton, in the long bones, for example, in the perforation of the elbow fossa of the upper arm. The thighs of the Palaeolithic period were much thicker than wide, the linea aspera was a true column of bone, thick, protruding and strongly curved, and these characteristics were found in part in the human remains of the age of polished stones. A second characteristic of Palaeolithic races is the flattening of the tibiae or platyknemia. Now tibiae of this type have been found in Chamant and Gibraltar, sites from the polished stone age, as well as in the completely Quaternary Les Eyzies and the Montmartre diluvium. Finally, a third characteristic can be recognized in the shape of the wadbone. This is triangular in our present-day races, while two distinct grooves are observed in those collected in Cro-Magnon, Solutre and in the Madelaine, as well as in a number from the cave of L'Homme Mort in Lozère. The latter cave, however, belongs to the period of the cut stone. One must therefore admit that at least one of the Quaternary-period races with distinctive features in bone structure has persisted until the time of the cut stone, indeed until our own time.¹) Finally, Cazalis de Fondouce stated that Hamy had also found the same characteristic of platyknemia and the strong development of the linea aspera of the femur in human bones from a passage grave near Paris.)²

From a geological point of view, the assumption that Europe was uninhabited in the intervening period between the Reindeer Period and the Neolithic Period also appears unjustified. If in some places the Palaeolithic layers are separated from the Neolithic layers by an intermediate layer, in which no human

Revue scientifique. 2^e ser. III. 262.

²) Kopemicki also observed platyknemia in the tibiae of the dolichocephali buried in the stone cist grave of Kociubince in eastern Galicia (of the row grave type). Kopemicki, Nowy przyczynek do antropologii przedhistorycznej ziem polskich 16.

If in some caves an intermediate layer of stalagmites is found between the Palaeolithic and Neolithic remains, these are merely local phenomena from which one should by no means conclude that Europe was rendered uninhabitable by some general flooding. In numerous other caves, such as those of Gourdan, Arudi, Bize, Massat, Laugerie-Basse and others, there is no trace of sand or mud deposits.

In faunistic terms, Cazalis de Fondouce also denies that a complete change occurred in the Neolithic period. He notes that the Quaternary fauna may have diminished, but was by no means extinct. And it had already diminished during the Quaternary period, and this can be traced back to the Neolithic period.

reduction can be traced back to historical times. The deer, the roe deer, the pig, the goat, the wolf, the dog had already lived before ! the time of the polished stones, the racing animal was by no means

suddenly disappeared from Central Europe after the end of the Ice Age, but , as can be seen from the Swabian cave finds, where Renn thier bones were found together with Neolithic objects I were found in Germany at least into the Neolithic period. . In view of the fact that in the Neolithic period

Period domestic animals appear, cattle breeding and agriculture are practiced , he also does not want to deny that a complete change in of the way of life took place, but believes that this change had already been prepared in the Quaternary period. He refers mainly to Steenstrup's remarks at the congress on Brussels.

The latter, after showing that in Belgium during the Quaternary period the horse could have lived in a state of semi-wildness similar to that of the Lapps and Samoyeds, had further remarked that among the bones that had been taken out of Palaeolithic and Neolithic layers at the same time as the bones of the ancient pachyderms, there were a fairly large number of bones belonging to our other domestic animals, the bovine, the goat, the sheep, the pig. "Quand à moi," are his own words, ..je n'ai pu distinguer ces os de ceux de ces especes, ni lorsque je les ai examinés pendant mon premier s[^]jour en

Belgique, ni lorsque plus tard j'ai comparé mes notes avec les collections de Copenhague . . In the face of these trouvailles, . . il me faut admettre que ces restes d'animaux domestiques remontent à la même Époque que le mammoth etc., et, par conséquent, que les populations des âges du mammoth et du renne ont possédé elles-mêmes la plupart de nos animaux domestiques, ou ont pu se les procurer chez des peuplades voisines, par exemple en les volant." ⁸⁾ In conclusion, he had declared that, in view of the bones of bos, capra, sus found in the Belgian caves, one must either assume that the humans of the mammoth and reindeer age already knew and bred our domestic animals, or that, if they hunted these animals like the other wild animals, they already had these long-sought primordial races, to which our domestic animals go back, next to them. Dupont, in his reply to the Danish zoologist's remarks, supported the second assumption. "La seconde manière de voir," he said, "me paraît mieux s'adapter aux autres conditions relevées par l'observation. Elle nous fait entrevoir que le bœuf, la chèvre, le mouton et le porc domestiques, au lieu d'avoir une origine souvent complexe et d'avoir été amenés des régions orientales par des migrations de peuples, suivant l'opinion généralement adoptée, auraient été directement obtenus dans nos régions mêmes par la transformation d'espèces sauvages indigènes." ⁹⁾ Cazalis de Fondouce concludes from this that, whichever view one subscribes to, there is no gap in relation to domestic animals.

With regard to the flora, he also tried to show that the change had not been complete and sudden.

Finally, he tried to prove that the difference between the two periods was not as complete in archaeological terms as Mortillet and Cartailhac had claimed.

To this end, he undertakes to prove that the beginnings of pottery and of the geometric ornamentation that characterizes the Neolithic period date back to the Palaeolithic age.

⁸⁾ Compte rendu 212.

⁹⁾ Compte rendu 239 At the Stockholm Congress, Dupont provided more detailed evidence that none of our domestic animals had been tamed during the Quaternary period. Compte rendu. II. 824.

In the same year, Bertrand also stated that there were points of contact between the Palaeolithic and Neolithic periods. "Bien qu'il semble y avoir," he said, "au premier abord, comme on l'a dit, entre l'époque des cavernes et l'époque de la pierre - polie un immense hiatus, ces deux époques se touchent incontestablement."¹)

Cazalis de Fondouce's work had the effect that the hiatus theory was no longer upheld in the harsh version in which it originally appeared, not even by Mortillet. However, it was by no means abandoned.

Although Baron de Baye is inclined to attribute the transformation of the Palaeolithic culture into the Neolithic to the immigration of a new race, he states that there are many points of contact between the two periods. "La civilisation, incomparablement supérieure de l'époque néolithique," he said, "ne laisse pas d'avoir néanmoins de nombreux traits de ressemblance avec les habitudes et l'industrie des temps quaternaires. L'évidence d'une sérieuse transformation est incontestable néanmoins, malgré les points de contact." To the question of whether this change should be attributed to a gradual evolution based on the experience of previous centuries or considered the work of a new race that came among the Paleolithic population, he replies: "Lorsque des archéologues d'une grande compétence affirment l'influence des importations, l'arrivée d'une nouvelle race, il est difficile d'affirmer que le développement graduel fut la seule cause de la transformation opérée. Il faut bien reconnaître du reste que les traces d'un mouvement progressif ont été peu remarquées jusqu'à présent à l'époque quaternaire. Tout ce que l'on pourrait supposer comme vraisemblance c'est que la population des époques paléolithiques avait, par le temps, acquis une aptitude réelle pour recevoir l'impulsion imprimée par le courant d'une nouvelle population".²) However, despite the immigration of a new, more civilized race, it cannot be denied that there is a certain industrial connection between the two periods. "Malgré sa teinte propre et sa supériorité si bien reconnue l'industrie néolithique n'est pas un fait sans rapport avec les temps qui ont précédé son développement le plus parfait. It has made the

¹) Revue d'archéologie. 1874. P. 301.

²) Baye, J., baron de, L'archéologie préhistorique. Paris 1880. p. 75.

emprunts dans l'industrie et pris des exemples dans les mœurs, dans les habitudes. It seems that it was born in the Paleolithic period and was based on the first attempts of the Bronze Age civilizations."¹

The Marquis de Nadaillac begins his discussion of our question with the following words: "Si nous prenons dans son ensemble l'époque paléolithique et si nous la comparons à l'époque néolithique, nous* serons frappés de la différence qui se révèle et qui éclate aux yeux des observations les moins attentifs/²) After presenting the various facts that speak for or against the assumption of a hiatus, he expresses his own view in the following words: "Quelle que soit la manière d'envisager la transition entre les deux époques que nous étudions il est évident que les hommes des cavernes et ceux dont nous retrouvons les restes dans les terrains quaternaires, ne sont pas arrivés par leurs seules forces aux progrès considérables que décelé sur notre sol l'âge néolithique. Tout conduit à supposer des migrations nombreuses et répétées. Que ces races conquérantes soient venues s'établir dans les terres désolées et abandonnées également par les hommes et par les animaux, ou qu'elles aient rencontré devant elles les vieilles races du pays, il n'en est pas moins certain que ce sont ces étrangers who have brought with them new ways, new conditions of life, all the elements, in a word, of a civilization more advanced than any of our descendants." ²)

G. de Mortillet, who returns to the hiatus question in his Handbook of Palaeoethnology published in 1883³), first gives a brief overview of the distinguishing features that characterize the last epoch of the Quaternary period (the epoch of la Madeleine) and the first epoch of the "present" period (the epoch of Robenhausen, named after a pile-dwelling site in the canton of Zurich). These are the following:

Epoch of la Madeleine.

- ¹) Cold and dry climate with extreme temperatures.

Epoch of Robenhausen.

- ²) Nadaillac, Marquis de, Les premiers hommes et les temps préhistoriques. Paris 1881. I. 211. 1. temperate, far more even climate.

- ²) Nadaillac, op. cit. I. 227.

- ³) Mortillet, G. de, Le préhistorique. Paris 1883. p. 479.

2. The last large fossilized animal, the mammoth, still exists.

3. The chamois, the marmot and the ibex live in our plains.

4. The reindeer, the Sai'ga antelope, the wapiti, the wolverine, the polar bear, etc. in Central Europe.

5. The hyena and the large cat species are still present.

6. No pets.

7. Uniform type of human being.

8. Nomadic peoples.

9. Hunters and fishermen without agriculture.

10. Tools made of stone that are merely slammed shut.

11. No earthenware.

12. No monuments.

2. The mammoth no longer

The distinguishing features listed under 13, 14 and 15 can be disregarded as less essential and also less certain; they will be discussed later.

Mortillet notes that the revolution separating the epoch of la Madeleine from the epoch of Robenhausen was both physical and industrial in nature. The change in climate occurred very slowly and therefore a very long period must have elapsed between the two eras. One of the most immediate effects of the increase in temperature was that the animals of the cold zone migrated northwards. This is how the racers, which today can no longer survive in Stockholm and Petersburg, left our regions. This is the was the animal most sought after by the population of the era of la Madeleine, as evidenced by the enormous accumulations of its prehistoric remains in the stations of this era. It is quite natural to think that the majority of the population had to follow their favorite hunting animal. Hence the great decrease in the number of inhabitants of Central Europe and, as a result, the traces of human settlements.

exists.

3. The chamois, the marmot and the ibex have retreated to the peaks of our mountains.

4. These animals have migrated to the northern regions forever.

5. The hyena and the large cat species no longer occur.

6. Domestic animals in large numbers.

7. Great diversity of the human type.

8. Sedentary peoples.

9. Developed agriculture.

10. Tools made of stone, some of which are polished.

11. Pottery is produced.

12. Monuments: the dolmens and menhirs.

These traces had even disappeared completely in many places over a long period of time. To see this for yourself, just look at the cross-section of the Placard cave. One can see that between the upper layer belonging to the Madeleine period and the layer belonging to the Robenhausen period there is a layer of rubble, 70 centimeters thick, which is completely sterile from an archaeological point of view. The same phenomenon is even more evident in the Laugerie-Haute cave; the sterile layer, which is located between the layer from the La Madeleine period and the layer from the Robenhausen period, is 1 meter 30 centimeters thick. These examples could be multiplied. Mortillet is content with one of a slightly different kind. In the cave of la Vache (Ariege) there is an intermediate layer formed from stalagmites that is 45 centimetres thick in places.

In industrial or social terms, there were very few points of contact between the two periods; the old appliances and the old customs had been completely supplanted by the new appliances and the new customs.

The assumptions based on the observation of these conditions are fully confirmed by anthropology. Throughout the Quaternary period, only one type of human being of indigenous origin can be seen developing in our regions. Its development is parallel to the development of its industry, slow, regular and continuous. Only at the beginning of the present period, at the same time as the culture of Robenhausen, entirely new races appear in central and western Europe. There is a great deal of mixing between the old indigenous (dolichocephalic) race and the conquerors, who are already composed of various elements. Only in the midst of these elements does one still find the indigenous type, the type

of la Madeleine and sometimes the type of Chelles also appears as an atavistic phenomenon. "Cela suffit," he concludes cautiously, "pour établir solidement le contact des deux populations, magdalénienne et robenhausienne, et pour montrer que l'hiatus qui existe entre les deux époques n'est pas un hiatus réel, mais bien une lacune dans nos connaissances, dans nos observations."

Mortillet claims that the new culture - the culture of Robenhausen - came from the Orient and that its bearers were the brachycephalic elements that had appeared since the beginning of the Robenhausen epoch. Two general facts should prove this: the introduction of the religious idea and the destruction of the art of la Madeleine's era. The religious disposition was one of the main ethnic characteristics of the oriental peoples. All the great religions are of oriental origin: Brahmanism, Buddhism, Mosaism, Christianity, Mohammedanism. Art, as the representation of objects of nature, was very little spread among the oriental peoples. Until the rise of Alexander, India had no picture pillars. Even today, no living beings are depicted in Persia. However, there are also individual facts that fully confirm this assumption. "L'invasion robenhausienne," he remarks, "nous a apporté aussi les animaux domestiques et l'agriculture. Or nous avons vu qu'agriculture et animaux domestiques venaient de la région qui constitue l'Asie Mineure, l'Arménie et le Caucase. Il est donc également parce de cela que la flutée de population est venue, qui, au commencement de l'époque robenhausienne, est devenue fugitive. Et, en effet, c'est dans ces parages que se trouve la population la plus brachy-céphale connue jusqu'à ce jour, les Syriens de Gebel-Cleikh, dont l'indice céphalique moyen est 85,95."^x)

Quatrefages is of the opinion that among the Quaternary races, only the Cro-Magnon race, which had its headquarters in the southwest of France (and on the Pyrenean peninsula) during the Quaternary period, had a truly artistic sense, that all other races - he also assigns the races of Grenelle and Fur-Fooz to the Quaternary period - only endeavored to meet material needs in the manufacture of their tools. In support

9 Mortillet, op. cit. 613.

of Cazalis de Fondouce's views, he cites the facts discovered by L. Lartet and Chaplain-Duparc in the Duruthy cave. "Ici la race de Cro-Magnon se montre à la base des foyers, associée à Fours et au lion; elle traverse la période du renne, et est représentée au-dessus des foyers de cette Époque par de nombreux squelettes dans une sépulture où elle s'associe à des armes, à des Instruments portant tous les caractères de l'industrie néolithique. Quelle qu'ait été la durée des temps représentés par les débris qui ont comblés en grande partie cette grotte, il est bien évident que la même race l'a constamment fréquentée, et a survécu aux changements de toute sorte qui doivent, dit-on, avoir produit l'hiatus." "Les découvertes de M. le docteur Prunier, de Marvejols, sont peut-être plus probantes encore. Dans plusieurs cavernes sépulcrales de la Lozère, cet infatigable chercheur a découvert de nombreux squelettes, dont la race est caractérisée par une dolichocephalie constante, et qui appartiennent, comme les précédents, à la race de Cro-Magnon. These representatives of the quaternary populations were habitually at war with the constructors of dolmens. La preuve en est que plusieurs squelettes portent encore, fichés dans les os où elles avaient pénétré, des flèches dont l'origine néolithique est indiscutable." ^{x)} It follows that the two populations lived side by side and fought over ownership of the land.

Quatrefages tries to reconcile both theories by assuming that for certain regions the assumption of a hiatus was justified, but that it was not general. "La pénurie croissante de gibier," he says, "dut causer bien des émigrations. Des valées, peut-être des contrées d'une certaine étendue, durent perdre leurs habitants. Geological and zoological modifications must be made before the neolithic populations are repeated. Il est permis de dire que, pour ces localités, l'hiatus a réellement existé." A Les auteurs que j'ai cités plus haut n'ont eu d'autre tort que de regarder comme général un état de choses essentiellement local. ^{xiv xv})

In assuming a hiatus between the Palaeolithic and Neolithic periods, the aforementioned researchers initially France and Belgium. However, such a hiatus can also be demonstrated for Great Britain, Germany and the rest of Central Europe, as far as it was inhabited during the Quaternary period. Evans states it for Great Britain. "Quoi qu'il soit," he says, "dans la Grande-Bretagne tout au moins, il paraît y avoir un abîme entre l'époque du diluvium et l'époque néolithique, en tant, tout au moins, qu'il s'agit des formes

XIV^a) Quatrefages, A. de, Hommes fossiles et hommes sauvages. Paris 1884. p. 97.

XV^a) Evans, J., Ages de la pierre de la Grand-Bretagne. Traduit de l'anglais par E. Barbier. Paris 1878. p. 685.

^w) Correspondenz-Blatt der deutschen Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1877. S. 80.

intermediaires d'instruments. Il en rdsulte que la race d'hommes qui a fabrique les Instruments paleolithiques les plus rfcents avait, selon toute probabilitd, disparu depuis un temps tres reculd alors que le pays a peupl6 de nouveau par une autre race qui ne se contentait plus d'dclater les Instruments en silex dont eile se servait, mais qui polissait ces instruments et qui, en outre, etait contemporaine d'une faune ressemblant beaucoup plus a la faune actuelle qu'à celle de l'dpoque quaternaire."

For Germany and Switzerland, Virchow noted a "great gulf" between the Palaeolithic period and the Stone Age characterized by the pile dwellings. "The pile dwellings," he said at the meeting of German anthropologists in Constance (1877), "also belong to a large extent to the Stone Age, but the Stone Age of the pile dwellings is separated from the Stone Age of the caves by an infinite period of time. The men of Thayn- gen and Schussenried lived when perhaps a large part of this surface was still covered with glacial ice. On the other hand, the pile dwellers undoubtedly only moved into the sea when the ice had receded far towards the Alps. While in the time of the Bennthier people there can be no question of agriculture, we find the pile dwellers in full possession of it, richly endowed with fertile fields, whose yields confront us again in the most varied form from the charred remains of the lake and sea bed."²)

Dr. M. Much, one of the most thorough researchers and experts on the prehistoric conditions of Austria, also notes that there are no intermediate links or other features that indicate a transition from the Palaeolithic period to the Neolithic. The mammoth and reindeer people were pure hunters who had neither grain nor domestic animals, no clay vessels, no woven garments, no self-built permanent house, whose tools consisted mostly of a few worked bone splinters and hewn flints of such primitive simplicity that the most vivid doubt often arose as to whether they owed their shape to the human hand or to chance. In the Neolithic period, on the other hand, instead of the campsites of fugitive hunters or inactive nomads in caves or under rock faces, one sees permanent settlements, the permanent existence of which is attested by the quantity of worn or lost tools, potsherds, wall coverings of huts, the bones of eaten animals, ashes and coal. "It is a new, different kind of people that has hardly anything in common with the former. They built their dwellings on mounds above valley lowlands that were probably still marshy at the time, mostly in places that were easier to defend against attacks; in lakes and moors they drove stakes into the ground not far from the shore in order to build their own, but secure and permanent home above the water. They were accompanied by cattle, sheep, goats, pigs and dogs, some of which live under the same roof and for which they have to stock up on food for the winter, as they are unable to seek out milder regions during the harsh season. They

also brought grain and flax with them from their homeland, and many finds testify to the extensive cultivation of these plants. They prepare their food on the hearth, for which they also make clay pots, to which they are sometimes able to give pleasing shapes and rich ornamentation" Their utensils are very varied and often worked with astonishing precision; We find many of them with special purposes, such as axes and chisels of various kinds, hammers, club handles, knives, saws, drills, scrapers, arrowheads and spearheads, daggers, spatulas, flax hackles, needles, awls, combs, spinning whorls, loom weights, smoothing, whetting, grinding and working stones, grain mills and jewelry of various kinds. However, their tools were not limited to the simple tools and implements listed above; they also had composite devices comparable to our machines, such as for drilling and sawing stones, spinning, reeling and weaving.

6* and certainly many other devices of which we have no knowledge.⁴⁴ Moreover, they had already processed the copper into tools.)¹

From the above it can be seen that the opponents of the hiatus theory, even if they could point to a few individual points of contact between the tools of the Palaeolithic and those of the Neolithic period, could not prove that there were any actual transitional forms anywhere in Central Europe, which would certainly have already been found if, as they assume, the transition from the Palaeolithic to the Neolithic culture had taken place on the soil of Central Europe; that although they could also point out that the most important of our domestic animals (horse, cattle, sheep, goat, pig, dog) already lived in Central Europe in the Quaternary period, it can be considered nothing less than proven that one of the animals mentioned was already in a state of domestication at that time, and that in order to explain the emergence of such a fundamentally different culture as the Neolithic, they had to resort to the assumption of repeated immigrations of new races, through which the new cultural elements were brought. On the other hand, even the staunchest proponents of the hiatus theory, such as Mortillet, cannot deny that Palaeolithic man is not alien to the Neolithic period. But not only is Palaeolithic man not alien to the Neolithic period, he appears to be the actual creator and bearer of Neolithic culture. This can be seen quite clearly in those countries where the Neolithic culture reached its richest development, namely in the Scandinavian countries (see p. 9); it can also be seen in the country that has preserved the most interesting remnants of that culture in its lakes, Switzerland (see p. 19). Here, as well as in all other countries over which the Neolithic culture has spread, a race of dolichocephalic cranial structure appears to us as the bearer of it, which already lived in Central Europe in the Quaternary period (see p. 66) and is still preserved almost unchanged in today's Swedes, Norwegians and a large part of the Danes.

')} Much, M. j. Die Kupferzeit in Europa und ihr Verhältnis zur Cultur der Indogermanen. Mittheilungen der k. k. Central-Commission zur Erforschung* und Erhaltung der Kunst- und historischen Denkmale. XL, p. Ct. It has also been shown before that we have to see in these people the actual Aryans.

If the transitional forms between the tools of the Palaeolithic and Neolithic periods cannot be detected anywhere in Central Europe, their presence in the southern part of Scandinavia is all the more certain. It is the Danish Kjökkenmødings that contain them and it is mainly they that give the period during which these shell heaps were accumulated the character of a transitional period. Torell was therefore right to suggest the term "Mesolithic" to describe this period. It has also been discussed earlier (p. 64) that some of the implements found in the Kjökkenmødding and the so-called coastal finds closely resemble the implements found in the Belgian, French and other caves from the Palaeolithic period, while others are actual transitional forms, but other implements already bear all the characteristic features of the implements of the Neolithic period - polished implements are also found. While it is not certain that fire was used by the people of the mammoth and reindeer periods to cook food, ashes and coals from ancient hearths can still be found among the food remains in the Kjökkenmøddingern. The Kjökkenmødding people already led a sedentary life, made crude clay vessels and already owned a domestic animal, namely the dog, as Steenstrup has demonstrated with great acumen.

That not only is there no reason to assume that they belonged to a different race from the inhabitants of Scandinavia in the Neolithic period, but that there is every indication that the latter must be regarded as the direct descendants of the former, and that furthermore the Neolithic inhabitants of Scandinavia were anthropologically no different from the Palaeolithic inhabitants of Central Europe, has also been explained earlier.

Just as it is certain that Central Europe was inhabited by humans during the Quaternary period, it is equally certain that Scandinavia and northern Germany proper were not inhabited by humans during the same period due to the complete glaciation of this area of land. If we now consider that Central Europe lost most of its inhabitants at the end of this period, as the investigations of numerous caves have shown,¹) but that, on the other hand, it can be proven that people already lived in southern Scandinavia in the first sections of the post-Quaternary period, at the time when spruce forests still covered the soil of Denmark; considering that there is not the slightest evidence to support the assumption that the Palaeolithic inhabitants of Central Europe were destroyed by some great natural event, such as a general flood; considering further that the race, along with other animals, moved

northwards as a result of the change in climate^{XVI XVII}) and that the existence of Central European man was mainly based on the race in the last epoch of the Quaternary period: does not the thought suggest itself that at the same time as the race, man also left Central Europe, migrated to the north and here gradually, on the one hand oppressed by the imminent extinction of his favorite hunting animal, the race, on the other hand favored by the continuously more favorable climatic conditions, which made it possible for the animal and plant world of the temperate zone to advance to an ever greater extent, changed to a different way of life and gradually developed the culture that linguistic palaeontology teaches us on the one hand as the culture of the unseparated Aryan primitive people, and on the other hand archaeology teaches us as the culture of the Neolithic age?

It should be repeated once again that the archaeological, anthropological, faunistic and floristic facts on which this assumption is based can only be proven in southern Scandinavia. For this very reason, however, only Scandinavia, or southern Scandinavia, can be regarded as the homeland of the Aryans.

It has already been noted above that Steenstrup believes that 10 to 12 thousand years were necessary for the change of forest vegetation (spruce - oak - beech), as it took place in Denmark, and for the accumulation of the Kjökkenmøddinger. If this assumption is correct, then we must also estimate the duration of the Mesolithic age at the same number of millennia. On the other hand, the period from the end of the Quaternary period to the appearance of the Neolithic culture in Central Europe is also estimated to have lasted many millennia.

Was Central Europe uninhabited during this long period? Not at all. During this intervening period, the Cro-Magnon people, whose traces we can still clearly follow, had spread across France, Belgium, England and Ireland, and since then the Iberian element has formed a not inconsiderable part of the populations of these countries. These people, who likewise had not yet progressed beyond the Palaeolithic culture, probably occupied many of the caves that had previously served as dwellings for the people of the so-called Cannstatt race, and lived in them until the appearance of the Neolithic culture and beyond. And so it appears in many cases as if a population change had not taken place and the assumption of a hiatus had no justification, an assumption that appears fully justified by the results

XVI¹⁾ Garrigou, who had explored 280 French caves by 1875, found that the deposits of the age of the reindeer were almost always separated from those of the age of the polished stones either by sterile layers or by stalagmites. Nadaillac, *op. cit.* 225.

XVII) According to Nilsson, the race that lived in southern Scandinavia in prehistoric times and whose remains have been found in the Danish-Swedish bogs is not the modern Lappish race, but the Central European fossil race.

of the investigations of other caves and the change that the entire Neolithic culture shows. The reason why Iberian elements from Italy did not also penetrate into Germany is probably that the Alps posed insurmountable difficulties to such an advance.

From the east, Turanian (brachycephalic) elements had penetrated again and, as the skulls found in the Belgian caves show, had often mixed with the people of the Cro-Magnon race. As certain as it is that Turanian elements had already penetrated Central Europe and from there to England and Ireland, the assumption that these elements had already lived in Europe during the actual Quaternary period is unfounded.

When the descendants of the Palaeolithic inhabitants of Central Europe (the Aryans) reappeared on the soil of Central Europe from the north after thousands of years and encountered the Iberian-Turanian elements that had invaded in the meantime, there could be no lack of hostile clashes. This is indicated by the evidence already mentioned (p. 81) by Prunieres in cave burial sites of the

The skeletons of people from the Crö-Magnon-Race found in the Lozere department, several of which still bear arrows of an undoubtedly Neolithic character. This is also indicated by the fact that the people of the Neolithic period most often built their dwellings on the hills that dominate the valleys and even fortified them. Dupont, who points to these fortifications in Belgium and sees them as a distinguishing feature of the Neolithic age from the Palaeolithic, rightly concludes that there must have been fighting, even if not between the populations that Dupont assumes.^x) Incidentally, the Neolithic hill forts are not a phenomenon limited to Belgium alone; they can also be found in other countries that were occupied by Aryans and apparently had the purpose of securing their rule against the foreign population elements that they had found and subjugated in the country. They served the ancient Aryans as bases for their rule just as the castles of the Middle Ages served the later Germanic tribes.

Even if the Neolithic culture is completely different from the Palaeolithic culture, it cannot be denied that the former is rooted in the latter, has gradually grown out of it, albeit on foreign soil, and that as a result both cultures show some points of contact with each other. After all, it was the same race that created both the Palaeolithic and the Neolithic cultures.

Because Mortillet misjudged the real facts, he had no other way of explaining the hiatus than to regard the Neolithic culture as a culture that had been transplanted from Asia to European soil by a non-European race. However, the idea of seeing the brachycephals as the carriers of the Robenhausen culture is just as incorrect as the arguments put forward in favor of this assumption. It is a completely unproven and unprovable assertion that the inhabitants of Europe had no religious ideas during the Quaternary period and that they first had to be supplied with such ideas from the Orient, quite apart from the fact that all

^j) *Compte rendu du Congrès de Bruxelles 1872*; Dupont, E., *L'homme, pendant les âges de la pierre*. 2^e ed. Bruxelles 1872. p. 235.

the great oriental religions mentioned - Brahmanism, Buddhism, Mosaism, Christianity, Mohammedanism - originated among dolichocephalic peoples, just as it is incorrect to deny the oriental peoples a sense of art¹), just as it is wrong to contrast the Robenhausen epoch with the epoch of la Madeleine as an artless one. And as far as domestic animals are concerned, more and more recent studies show that all domestic animals known from the Neolithic period are of European origin. It is no less wrong to regard Asia Minor, Armenia and the Caucasus as the starting point of the brachycephali, because it is in these regions that the most brachycephalic population is supposedly to be found. However, the brachycephalic population living in these regions is by no means autochthonous there, but immigrated at various times from the north and northeast; for linguistic and anthropological reasons, only the plateaus of Central Asia can be regarded as the actual center of radiation of the brachycephals.

In addition, it can be demonstrated in the most definite way that the culture which the brachycephals received at their first ^{XVIII}

XVIII¹) While Mortillet denies any artistic sense to the brachycephals as the alleged bearers of Neolithic culture, Ujfalvy, in the part of his lecture given at the Paris Anthropological Society on May 15, 1884, which deals with my Aryan theory, goes so far as to assert the following: "I say, in conclusion, two words on the subject of the pre-ten- due superiorite of the dolichite races. May 1884, in the part of his lecture dealing with my Aryan theory, "Je dirai cependant, en terminant, deux mots au sujet de la pre-ten- due superiorite des races dolichocephales blondes sur les brachycephales brunes. Si la superiorite en fait d'humante ne consiste exclusivement qu'en une certaine energie physique, en un esprit remuant, entreprenant, envahissant; en un mot en un esprit de conquete, certes, alors les blonds dolichocephales sont la premiere race du monde; mais si, au contraire, on examine les facultes psychiques, on verra que la conception artistique, ce supreme genie de la race humaine, l'eternelle gloire des Grecs et des Romains guides par les Grecs, est devenue le patrimoine imperissable des races brunes et brachycephales de l'Europe centrale et meridionale; and this is a superiority of a different kind than that which the blond race enjoyed and which suffers from the need to console the brown brachycephals of having re- u a moment donne de ces rivaux la langue aryenne." Bull. de la Soc. d'anthrop. de Paris. 3^e ser. VII. 437. The national chauvinism, which does not disdain to operate in the field of science with ordinary sleight of hand, is self-directed. The ancient Hellenes a dark, brachycephalic people, the blond race a race with a poorer intellectual, especially artistic, disposition - such assertions should least of all be offered to a scientific society.

The culture of the Neolithic period was very different from the culture of the Neolithic period. The latter lagged far behind and this is the reason why it is assumed (e.g. de Quatrefages and Dupont) that the brachycephals already lived in Europe during the actual Quaternary period. It is the Belgian caves, the rich yield of which has enabled us to form a fairly clear picture of the living conditions of those first brachycephalic immigrants. While - to emphasize just one moment - the remains of the Neolithic cultural period indicate in the most definite way that their bearers waged wars, the brachycephalic inhabitants of the Belgian caves appear to be a thoroughly peaceful people. "Le milieu que ces Mongoloides habitaient," says Dupont, "aussi bien que l'absence de tout instrument qui n'avait pas pour destination directe et même évidente d'aider aux actes journaliers de la vie, paraissent exclure chez eux toute idée de guerre et de lutte. In their minds and in their utensils, everything protests against making of them a warrior people, and this pacifist character is, let us say, evident. Ce n'est là, du reste, qu'un point de ressemblance de plus entre nos peuplades quaternaires et les races circumpolaires."¹)

The fact that the "Arctic" culture of northern Europe, whose bearers were also brachycephalic peoples who migrated from Asia, is also different from the Neolithic culture has already been discussed above, as has the fact that the vast majority of skulls found in Neolithic burial sites are of the dolichocephalic type.

From an archaeological point of view, it should also be noted that the various manifestations of Neolithic culture, as far as they are known from the individual countries of Europe, also point to Scandinavia as their starting point in that no stone artifact characteristic of any country area, none of the Neolithic burial structures in Scandinavia appears unrepresented. This has already been demonstrated above for the Polish-Russian area. The fact that the stone tools found in the Baltic-Finnish provinces also point to Scandinavia as their starting point will be shown later. The fact that the stone culture of Holstein, Hanover and Mecklenburg is completely identical with the stone culture of Scandinavia will be shown later.

¹) Dupont, L'homme 187.

is a generally recognized fact. And the fact that the situation is the same in Western countries (Great Britain, Ireland, Belgium, France) has also been explained above.

X .

Even if the oldest archaeological finds made in Scandinavia did not point directly to Central Europe as their starting point, even if no skulls had been found there in which we recognize the basic shape of the Aryan skull, we would have to assume for another reason alone that the ancestors of the Aryans must once have lived in Central Europe for a long time. Since prehistoric man was certainly not blond, blue-eyed and white-skinned, where else could the Aryans have acquired these characteristics than in Central Europe during the so-called Ice Age, during which animals lived in the plains that today only survive on the heights of the Alps or in the polar zone.¹) We can make this assumption all the more confident as we have sufficient evidence to assume that Turanian tribes lived alongside the Aryan race in northern Europe as early as the Neolithic period, and that the representatives of this race still living today, as the example of the Lapps shows particularly clearly, have become just as little blond as their fellow tribesmen inhabiting more southern regions. However, from the fact that the Lapps living in the far north are darker in complexion and the Swedes and Norwegians living further south are lighter in complexion, it has been concluded that there is no connection at all between climate and complexion."^{XIX XX})

XIX Even if the figures given by Mortillet, Le pr^hhistorique 627 (78,000 years for the preglacial epoch of Chelles, 100,000 years for the actual glacial epoch of Moustier, 11,000 years for the epoch of Solutrd and 33,000 years for the epoch of la Madeleine) lack a secure basis and are too high, everything speaks in favor of the assumption that the Ice Age lasted an extraordinarily long time.

XX it does not appear that color and the other more prominent physical attributes, or mental capacity, have any necessary connexion with climate." And in his treatise: On color as a test of the races of man (Transact. of the Ethnol. Soc. of London. New ser. III. 252) he remarks: "The differences of color in the different races of mankind are various, and seem, as already indicated, to have been impressed upon them from their creation, much in the same manner as they have been on the lower animals in the wild state. It has been argued however, that a long course of ages would suffice to bring about all the varieties of color, as well as of form, which now prevail; but surely this is nothing better than taking refuge in the dark, and groping in it for results for which experience affords no warrant." If this view may already be of little satisfaction to the polygenist, it is completely unacceptable to the monogenist. Crawford was pushed to this view by considering only the current distribution of the races and the migrations of the peoples that can be traced by literary evidence.

But this conclusion would only be correct if at the same time it were proved that the two races, to which the peoples mentioned belong, were exposed for the same length of time to the effects of the cold climate, an assumption which is directly refuted by the history of these Bacen, inasmuch as it is certain that the Aryan race already lived in Central Europe during the Quaternary period, while conversely there is not a single undoubted testimony that the Turanian race had advanced from its Asiatic home to Europe during the Quaternary period proper. The available facts only permit the "conclusion that the factors acting on man from outside, however long the influence may be, are incapable of exerting any perceptible influence on the racial characters once they have been acquired. ^{x)}

And that the bright complexion as well as the other physical characteristics, by which the Aryans are distinguished from the other cultures, had to be acquired, results on the one hand from the uniform origin of the human race and on the other hand from the realization of the connection between the climatic factors of light and temperature and the complexion, which we owe to the newer physiology¹), a realization that has recently received direct confirmation through experiment. ^{XXI XXII}

*) H. Schaaffhausen (Die Lehre Darwin's und die Anthropologie. Anthropological Studies. Bonn 1885. p. 455): "A large part of the characteristics by which the human races differ must be regarded as produced by the climate, such as the color of the skin, the hair and the iris, the size and constitution of the body. It is physiology which has been able to prove the correctness of this view by investigating the intimate connection between the activity of the organs and the living conditions. Some researchers have considered these physical characteristics of the race to be independent of the influence of external nature, because this dependence cannot always be proven in the distribution of races over the earth's surface and phenomena that contradict this view can be observed. The human form is seen to be large in the hot as well as in the cold zone; the color of the skin

XXI are often darker at higher latitudes than near the equator, as Alex von Humboldt noticed. But it is easy to explain these apparent contradictions. With marvelous tenacity, nature retains certain characteristics that a particular climate has produced over a long series of generations, even under other skies, and the preservation of such distinct peculiarities through reproduction proves to be more powerful than the transforming effect of another climate*, which could only assert itself in the course of an equally long time and under the same circumstances as they were necessary for the first formation."

¹⁾ Schaaffhausen, Die Hautfarbe des Negers und die Annäherungen der menschlichen Gestalt an die Thierform. Anthropological Studies 165-169. The black color of the Negro's skin has its cause in the so-called pigment, which is nothing other than almost pure carbon that is deposited in his skin because the warmer and less oxygen-rich air he breathes cannot completely transform it into carbonic acid in the metabolism, as the more vigorous respiration of the Northerner is able to do.

XXII) Aug. Weismann (Studien zur Descendenz-Theorie. I. On the seasonal dimorphism of butterflies. Leipzig 1875) has shown that two forms of a Vanessa species (Vanessa prorsa, V. levana), considered by many entomologists to be different species, are only

) Added to this are the observations in the animal world, which point to this connection with even greater decisiveness than the observations made in the human race. ^{XXIII)}

Similarly, only the assumption that the Aryan race received its physical form in Central Europe during the Quaternary period explains its relationship to the Semitiberian race. This race, which in craniological and anthropological terms is the closest of all races to the Aryan race, without being identical with it, differs from the latter by characteristics which indicate that it lived under different climatic conditions, which were not as favorable to its physical development as the climatic conditions under which the Aryan race underwent its period of physical development. The Semites as well as the Iberians are of smaller stature and weaker physique than the Aryans, and also of darker complexion. In fact, the actual homeland of the Semitic-Iberian race, the three large peninsulas of Southern Europe, had a much milder climate than Central Europe during the Quaternary period, as can be seen from the fact that south of the Alps and the Pyrenees no Nordic animals, such as the race, are to be found in the caves and river deposits, but some very southern forms are represented.)¹

XI

Since the Aryan race has developed under the influence of climatic conditions such as are at present peculiar only to the north, it can be understood that the same race progresses best in the north, degenerates gradually in the south and later dies out completely.

Until more recent times, it was generally believed that humans were capable of acclimatization everywhere, and it was concluded from this that humans occur everywhere on earth, both below the equator and in the polar zone. It is no coincidence that the incorrectness of this view was first recognized in those European countries that were in a position to make more detailed observations in this respect due to their possession of subtropical and tropical colonies, namely in France and England. It was the French scholar Dr. Boudin who first discussed the question of acclimatization in detail on the basis of considerable observational material and arrived at results that differed completely from the views that had previously been formed on this question. The most important conclusions of his fundamental work were that it had in no way been

winter and summer varieties of the same species, since it is possible to produce the winter variety (*Vanessa levana*) regularly already in summer by breeding the summer brood at an artificially lowered temperature of the air surrounding the caterpillars and pupae.

XXIII') Boudin, M., *Du Non-Cosmopolitisme des races humaines*. *Memoires de la Soci&e d'anthropologie de Paris*. I. 93-123.

proven that the various races of man were cosmopolitan, as had been previously believed, but that a number of facts proved just the opposite; the ability to acclimatize outside the home territory differed according to race and this difference was reflected in the corresponding differences in the proportion of sick and dead people of each race; it has not been proved that the European can get on as an agriculturist in the hot countries of the northern hemisphere; that the acclimatization of the European appears to proceed with far less difficulty in a very large number of places situated in the hot and even in the tropical region of the southern hemisphere; that the European is far better able to tolerate migrations to cold than to warm countries. With regard to the Negro race, he came to the conclusion that it was unable to acclimatize in southern Europe, or even in North Africa. Only the Jews acclimatize and survive in all countries.)^x

The main error in Bondin's conclusions lies in the fact that he has extended them to all Europeans without considering that nothing less than three races have participated in the construction of the European peoples, which behave quite differently in terms of acclimatization. As the example of the Spanish and Portuguese in the tropics, as well as the example of the Southern French, who are strongly mixed with Iberian and Turanian elements, and who continue in Algiers, shows, these propositions cannot be regarded as valid either for the Semito-Iberian or for the Turanian race.

There are also other observations for the Turanian race that, like the Jews, it is capable of acclimatization everywhere. But its validity for the Aryan race can be doubted all the less. Algiers, where the more Aryan northern French do not get on, provides proof of this alone.

It must be noted that the fact that the question of acclimatization has mostly been treated without regard to the different anthropological composition of the individual European peoples and tribes is mainly responsible for the fact that in no question have such contradictory views been put forward as in the question of the acclimatization capacity of Europeans in general and of the individual European peoples in particular.

Following on from Boudin, three years later (1863) Dr. J. Hunt dealt with the same question in a lecture given at the Ethnological Society in London^x), which is of all the greater interest to us because in it he discusses in detail the possibility of the acclimatization of the English in India and, on the basis of numerous testimonies of competing men (the Duke of Wellington, Sir Ranald Martin, according to whom the third generation of unmixed Englishmen is not to be found anywhere in Bengal, W. Twining, J. Jeffreys, Dr. Ewart. Twining's, J. Jeffreys', Dr. Ewart's).²) At the same time he refutes the often repeated

¹) Hunt, James, On ethno-climatology; or the acclimatization of man. Transactions of the Ethnological Society of London. New series. II. 50-79.

²) In his recently published studies on the ethnology of India, P. Mantegazza remarks from his own experience the following about the English in India: "Gli Europei non sono ehe accampati in India e forse nessun' Inglesevi può dire: mio nonno e nato qui. Per potervi vivere son costretti* ad una Continua battaglia di artifizii: bagnature continue, flanella per ogni parte, dieta rigorosa, soggiorno estivo nei Sanatorium di Darjeeling, dei Nilghiri e

assertion that the cause of this is to be found in the irregularity of the way of life. By correctly distinguishing exhaustion and degeneration from true acclimatization, which are often confused with each other, he considers true acclimatization to exist only where a race is maintained in a new region without an influx of fresh blood from the homeland and without mixing with the natives. His general view on the question of acclimatization is contained in the following words: "An examination of the human race shows us that every family presents different modifications, which are doubtless connected in some way with the nature of the cosmic influences by which they are surrounded. We know that some plants and animals are peculiar to certain regions, and that if transplanted to other climates they degenerate or die; such is the case with man. In every climate we find man organized in harmony with the climate; and if he is not in harmony, he will cease to exist.

In Germany, the question of acclimatization has only recently been made the subject of scientific discussion, and among the men who have taken the floor on this question, Virchow should be mentioned first. *) For him, too, the northern French, Germans, Dutch, English, etc. are "vulnerable tribes" in climatological terms, unable to resist the hot climates. He denies without further ado that India could be cultivated by members of these peoples. If Spaniards, Portuguese, Maltese and Sicilians prove to be able to acclimatize in the hot zone, the reason for this lies in the large amount of Semitic blood that runs through the veins of these peoples. In support of his view, he refers specifically to the history of the German nation, which provides the most extensive and saddest examples of

dei Ghaut, frequenti gite in Inghilterra. For the rest, despite the vigilance of the English language, despite the fact that the people who went to India are among the most robust (as their debts do not comply with the same rule), it is necessary to confront the sickness and the sickly bodies of the English, ehe ritornano in Inghilterra per prendervi salute e i volti rubizzi e i corpi snelli di quelli que vanno in India per persuadersi della lotta tremenda ehe sostengono i nostri organismi in quella terra di fuoco." Archivio per l'antropologia e la etnologia. XIII. 236.

*) Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1885. pp. 202-214. Bastian's and Fritsch's remarks following Virchow's lecture were along the same lines.

Penka. The origin of the Aryans.

for the fact that they have a low resistance to hot climates. "Those of us," he exclaims, "who set out for the first time on a journey to the land of the Longobards or the Visigoths or the Vandals, always have the silent hope that they will come across the descendants of old compatriots there, that they will find villages or at least families that have preserved the old type. Unfortunately, I was not able to do so and neither were the majority of other observers able to recognize the grandchildren of our fellow tribesmen, if they existed. The large bands of Germanic tribes, whole tribes that have

gone forth, some of whom have successfully maintained their rule in foreign lands for centuries and made the subjugated natives feel their power, have not only finally disappeared from the political stage, they have also disappeared from the physical stage. It looks as if they have been slaughtered."

The historical path is the only way in which a decision can be reached with certainty on the question of the ability of the Aryan race to acclimatize in warmer climates. The objections that have been raised against the justification of more far-reaching conclusions from more recent observations and statistical surveys, which often do not even cover a period of 100 years, do not apply in this case. Let us therefore follow the history of the individual Aryan peoples from a climatic-ethnological point of view.

The anthropological conditions of Germany, which still lies in the temperate zone, are of great interest. Long before the color of the eyes, hair and skin of German schoolchildren was measured and the skull shapes of today's Germans compared with those of the ancient Germanic tribes, it was recognized that the physical habitus of today's Germans differs in many areas from the habitus of the ancient Germanic tribes described by the old writers. More than 200 years ago, Conring, one of the most important scholars of the 17th century, pointed out this phenomenon and attempted to explain it in his own writing. *)

*) Conringii, Hermanni, medicinae professoris in academia Julia de Germanicorum corporum habitus antiqui ac novi causis dissertatio. Helmestadi 1645. "Intuenti mihi res Germanicas," he says right at the beginning of this interesting work, "suborta saepenumero est admiratio, non rem publicam tantum et mores, sed ipsiim quoque corporum habitum a prisco multum adeo discedere, ut nisi aliunde nobis certo de origine constaret, possit cui videri, non illis nos majoribus cretos, qui Germa- norum nomine olim claruerunt, aut vero laborare fidem veterum mo- numentorum, illa de majoribus prodentium, quae nobis nepotibus profecto non conveniunt," After he remarks that there is no reason to doubt the testimonies of the ancient writers and cites the testimonies themselves, he raises the question: "Num hodie vere quis - dixerit de Omnibus Germanis, vel eis qui Germanica lingua et institutis utuntur (ne nunc tangamus qui in Italorum, Gallorum, Hispanorum, Britannorum mores transierunt patrio solo relicto), num, inquit, vel de bis solis vere quis dixerit: habitus corporum idem omnibus: aut, natura est omuibis una? Num hodie vel omnes vel plerique Germanorum septipedali proceritate? Num hodie praestant insigni corporis candore ? Utrum omnibis pili recti et flavi ? An saltim plerique caesiis oculis? Equidem non minus nos aliis populis vici- nis habitu quam inter nos differre, arbitror, quantum me oculi docent. Proceri forte plures in Germania quam in Gallia, Hispania, Italia: candidi quoque plures et rufi et ^apoicol hic quam terrarum alibi. In nonnullis tamen Germaniae nationibus breves nigri et crispi numero alios illos longe antecedunt. Profecto si staturam aut colorem videas, longe plurimos sub Pyreneo aut

Apennino natos potius jures quam inter Hercynios saltus aut ad Rheni atque Albis flumina." Conring finds the cause of this change in the mixing of the Germanic tribes with foreign elements, but mainly in the changed way of life.

More than a century later, the zoologist E. A. W. Zimmermann dealt with the same question. He, too, noted the difference between the physical character of today's Germans and that of the ancient Germanic tribes. By regarding the former as degenerate descendants of the latter, he also seeks to prove that the causes of this degeneration are the changed way of life, but at the same time, contrary to Conring, who did not believe that the climate of Germany had changed, the climate had become milder. ^{x)})

^{')}) Zimmermann, E. A. W., Geographische Geschichte des Menschen und der allgemein verbreiteten vierfüßigen Thiere. Leipzig 1778. I. 54-59.

It had not escaped Niebuhr's notice that in most parts of Germany, yellow hair, which was once common among Germans and Scandinavians, had become rare. Otherwise a supporter of the theory that the physical characteristics of human beings are inherited unchanged, Niebuhr assumed an exception on this point. ^{*)} Bunsen assured Prichard that he had often looked around in vain for the nut-brown or golden curls and the light blue eyes of the old Germans and had never found the image that the ancients provided of his compatriots to be true until he came to Scandinavia; here he had found himself surrounded by the Germanic people of Tacitus. ^{XXIV XXV XXVI XXVII XXVIII XXIX}) Diefenbach notes that not only the Celts, but even the Germans themselves have largely lost the old blond work, especially in the south, and suspects the cause to be both the climate and the Celtic and Slavic mixture. ⁸⁾

W. Wachsmuth gives a more detailed account of the gradual decline of the Germanic peoples in Germany on the basis of contemporaneous literary and other evidence. On the outward appearance of the personality of the Germans in the Middle Ages, he remarks: "What had been the most conspicuous features of the Germanic tribes when they first came to historical attention - the tall figure, the light-colored hair, the blue eye - seems to have declined more and more. Northern Germany had remained more normal in this respect than southern, western and eastern Germany, where the German blood had remained less unmixed than there. Likewise the Scandinavian ancestry, where the old Germanic color of hair and eyes is the rule to this day. The extent to which body length shrank from the former giant stature is by no means to be calculated in the manner of Count Wackerbarth's fantasy. Tall stature was still a conspicuous feature of the Germans in the time of Emperor Sigismund.

XXIV¹⁾ Niebuhr, B. G., *Römische Geschichte*. Corrected edition in one volume. Berlin 1853. p. 646.

³⁾ Prichard, *Naturgeschichte des Menschengeschlechtes*. III. 1. P. 214.

XXV) Diefenbach, L., *Celtica*. Stuttgart 1840. II. 2. p. 117; Origines XXVI *Europaeae*. Frankfurt a. M. 1861. p. 165, where also the strange thought from XXVII that the increasing cooling of the earth, with which the XXVIII probable youth of the light racial contexts at all, for the XXIX subsequent period would suggest the opposite phenomenon.

In the descriptions of German corporeality, it is always the gentlemanly class that is to be understood as the epitome of eminent personality; the burghers, the country folk, the lats and servants, especially in the Germanized Slav countries, could not, like most of them, boast of being of unmixed Germanic blood, and the deviations from the old Germanic outward appearance were largely due to their non-Germanic ancestry. However, the fact that the height of the stature of even the lords and knights gradually descended to that of later generations can be seen from the armor of that time. Again, of the non-knightly warriors from the beginning of the 16th century, Macchia- velli praises the stateliness of the lancers, to whom the Swiss were not equal. Even in Sigismund's time, yellow hair, although no longer common, was still the preferred and prized hair of the Germans; it is often praised in legends and poems as an essential part of German female beauty. The fact that red hair was not considered to be the true and right kind, but rather an exception, can be seen from the epithets of Emperor Otto II, the Red, and Frederick the Redbeard. From this we can draw conclusions about the original type of Germanic hair color. The fact that tanning progressed in southern Germany may not be independent of the climate. Geyler von Kaisersberg and others have found fault with the fact that only yellow hair was used and, where nature had failed to do so, dyeing or other people's hair was used."¹)

Wachsmuth sketches the following picture of the physical type of the Germans of recent times and of the present: "The national type of the German body has had to endure crises in mixture with foreign-born people, transplantation to new residences or also transformation of the nature of the original residences and the living conditions, food, housing, clothing, work, etc. that depend on them, The population of the former Roman lands in the south and west, then in the Germanized Slav lands, was preceded by a mixture of bloods; since the Thirty Years' War, this has been followed by domestication.

*) Wachsmuth, W., *Geschichte der deutschen Nationalität*. 1st part. The totality of the German nation. Brunswick 1860. p, 117.

foreign soldiers on German soil. The results of this cannot be followed step by step; we have to focus on the present/⁴

"The reddish or flaxen hair and the blue eye have given way to dark colors in the greater half of the nation; the mixture with Welsh and the Germanization of Slavs in particular have opened wide gates for these. When darkening the hair, however, account must also be taken of a natural law that youthful light-colored hair tans with age. The light color of eyes and hair has remained prevalent in the

North German landscapes; likewise abroad, where the Germans have kept themselves closed off from mixing with non-Germans, in the Bohemian Forest, in Spiš, in Transylvania, on Monte Rosa. The nature of foreign lands and skies has only partially blurred these physiological characteristics. But the fact that yellow, frizzy hair was henceforth regarded as a major element of beauty is attested to by the vernacular.⁴

"The once tall stature has ceased to be common to the same extent as the light-colored hair. However, as noted above, the former generality is probably only to be thought of in relation to the men of war of our ancient ancestors; the lads and servants may not have been of the same stature as those. Even today, the nobility generally has more outward stateliness than the lower classes. Education and lifestyle have contributed to the physiological inheritance. The Germanized Welsh and Slavs have increased the number of medium and small statures. In some regions, the shrinking of body length has made it necessary to reduce the size of recruits. This is not only due to the natural organization of the race. The reasons for this are related to the distressing perception[^] that weak bodies, unfit for military service, are found in terrible numbers in recruitment. The reasons for this are to be found in the stepmotherly quality of nature in places, poor and meagre food, deadening sedentary work, which hinders the movement and development of the limbs and internal organs.⁴⁴

⁴) Wachsmuth, op. cit. 256.

The skull measurements made in the course of the last few years as well as the surveys relating to the color of the eyes, hair and skin have established, in agreement with the older observations, that the characteristic features of the so-called Germanic type: dolichocephalic, tall stature, blue eyes, blond hair and white skin become all the rarer the further one moves away from the north of Germany towards the south. From an anthropological point of view, Switzerland and the German-Austrian countries are very close to southern Germany. The fact that the ancient Germanic tribes were just as intolerant of the heat as the ancient Gauls is repeatedly attested to by Greek and Roman writers.

The Aryan element has suffered even greater losses in France, where it was once represented by two powerful peoples - the Gauls and the Germanic tribes. The climate of France is even milder than that of Germany. Roget de Belloguet states as a fact obvious to all "that the Gaulish type considre dans son ensemble tel que les anciens Font d6crit, est en- tierement perdu dans les trois quarts de la France, et ne se montre, sauf de rares exceptions, que singulierement affaibli, soit dans notre Bretagne, soit dans quelques-unes de nos ddpartements septentrionaux.

It is best preserved in Belgium, and especially in France; but just as in Holland, in the Prussian Rhineland and at several points in our territory, in Normandy for example, it has been given this persistence by the many Germanic elements which, in various ways, have been released. C'est m\$me à ses derniers, peut-on dire, bien plus qu'au sang gaulois que remontent vdritablement les hautes tailles, les cheveux blonds et les yeux bleus de la plupart de ces populations. Why is it that a type of göndral, so distinct, the object of continuous remarks of the tonte l'antiquitö, has disparu parmi nous, tellement que dans le pel-mele qui existe en France des traits et des tempöraments de toutes les familles de la race blanche, ce sont neanmoins les carac- teres physiques des peuples mdridionaux qui prödominent jusque dans nos provinces du nord ? What are the causes of this thunderous transformation which, beginning before the Roman conquest, and suspended several times by the immigration of the Germanic tribes, has continued its course and will not cease ? This is a major physiological question, no less important for science in general than for the specific research we are engaged in.)

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As a supporter of the theory of the stability of racial characters, which he justifies in detail in the first chapter of his book, Roger de Belloguet rejects the assumption that the type of today's French emerged from the Gallo-Germanic type through transformation as a result of the influence of external circumstances. "Je suis toujours pret ä faire," he says, "la part de ces diverses influences, mais rapporter ä elles seules un changement aussi göndral et aussi profond que celui de la race gauloise, c'est, a mon sens, non pas une simple exagdration, mais une double erreur historique et physiologique."^{XXXXXXI}) His own explanation is that he tries to prove that the Gauls came to France as a conquering minority, found a large population of Ligurian-Iberian origin there and were absorbed into this pre-Gaulish population over time; "le type gaulois," it concludes, "dont la dddgdnration se montre ddjä du temps de Cdsar, ayant ete presque entierement absorbd par la race brune dans la plus grande partie des Gaules, et n'existant plus dans certaines provinces du continent ou des Iles Britanniques, qu'ä un degrd d'abätardissement plus ou moins prononcö, il en rdsulte que les Celtes ne formerent jamais qu'une minoritö dans la population de toutes ces contröes; qu'ils n'en furent par consdquent pas les premiers habitants, mais, - comme Tindiquent leurs propres traditions, conformes ä plusieurs donnöes historiques, - des conqudrants dont la race finit par se perdre, sauf quelques exceptions locales, dans

XXX^I) Roget de Belloguet, *Ethnogdnie gauloise. Types gaulois et celto- bretons* 93.

XXXI) Roget de Belloguet, op. cit. 181.

la masse beaucoup plus nombreuse des vaincus."^{XXXII})

Just as in France, Gallic ("Celtic") and Germanic peoples had also settled on the Pyrenean peninsula in repeated migrations. But here, too, clear remnants of the Aryan element have characteristically only been preserved in the mountainous north, which is bordered by the sea and whose cool, damp climate is reminiscent of England, while it is certain that most other parts of the peninsula were also inhabited by Aryan peoples. Tubino, the best connoisseur of the ethnological conditions of his homeland, notes the following about the occurrence of blond hair and blue eyes on the Pyrenean peninsula: "Dans la r gion navarro-basque on voit des t tes blondes avec le visage de couleur plus ou moins basan e,   cot  de chevelures ch tain ob- scures ou simplement noires et le teint brun. Plus nombreux sont les blonds dans les Asturies et la Galicie, rares dans les autres r gions, mais les cheveux d'un ch tain tres-clair abondent partout. - En g ndral les yeux sont d'une couleur fonc e, mais les bleus ou clairs abondent depuis les Pyr n es jusqu'  la Galicie, et en partie dans l'Aragon, la Catalogne et la Vieille-Castille, tandis qu'on les voit s'obscurir, commun ment, vers le sud et Fest, sauf l'exception signal e dans les districts montagneux de Ronda" *) (near the Strait of Gibraltar). Tubino also notes that strength and physical energy have their headquarters in the north, whereas grace and agility are to be found in the south, and says quite correctly that the cause of this phenomenon is to be found in the difference of the racial elements.

Siop  at TO zapd izoXXot; dpoo pevov TOU; yap tm p MaasaXia; xaTOtxouvTa; ev Tip ixesoyeftp xal TOU; zapd Ta; AX "gt; ... KEXTOU; dvopidjoow TOU; O' unip TauTiq;     KeXTixij; sic Ta rpo; vdrov veuovTa pep?} irapa TS TOV ' xeavov xal TO 'Epxuviov dpo; xafttopupivcu; xal redvra; TO'J; pep'/l Sxu ia; FaXaTa; Tzpcayope oustv. It should be noted that Diodorus explicitly ascribes to his Gauls the characteristic features of the Aryan race: 01 8s FaXarae TOI; pev awpaatv staiv sup xsi; Tai; 8i aap\$l xa eypot xal Xeuxol, Tal; 8s xdp t; ix epiaew; fcavftol. Diod. V. 28. With regard to the meaning of the words KSXTOI ("dark ones") and FaXdTat ("fair ones"), cf. Penka, Orig. Ariac. 123 and 143. Caesar's report (B. G. I. 1) that the Beige were the bravest of all the Gallic tribes, as well as Strabo's remark (p. 196): del 8s ol Kpo; oppdTepoi xal Tzapwxeavkai (FaXdTat) pa tpcoTspot point to the same phenomenon. It is worth noting that, just as one language is spoken in almost all of

XXXII) Roget de Belloguet, op. cit. 309. Just as one currently observes the largest number of blondes in north-eastern France, from the department of la Manche to the department of Is re, and finds most young men who reach the C rassier measure, 1.732 m (Broca, Recherches sur l'ethnologie de la France in the Memoires de la Soci te d'anthropologie de Paris. 1.1--56 and ITT. 147-210; Boudin, De l'accroissement de la taille en France et des conditions d'aptitude militaire in the M m. d. l. Soc. d'antr. d. Par. II. 221-259), it was the same in the pre-Germanic-Roman period, as is clear from the words of Diodorus Sic.V. 32:

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France today, the "Celts" and the "Gauls" also spoke one and the same language.

*) Revue d'anthropologie. 1^{re} ser. VI. 543.

If the Aryan race in the southern countries were not subject to degeneration and complete extinction were not its last fate, then Italy - apart from the Aryan homeland - would have to have more representatives of the Aryan race than any other country in Europe. Italics - under this name the bearers of the Umbrian-Oscan-Latin idioms are summarized -, Gauls and Teutons - not to mention the Greeks who immigrated to Lower Italy - in other words, representatives of nothing less than three different Aryan ethnic groups have taken possession of this land in repeated immigrations over the centuries, settled there and founded powerful empires. And yet all these peoples have left only very scanty traces in the physical type of today's Italians, as can be seen from the materials collected by the Italian Society for Anthropology and Ethnology. "Nell' Italia in generale, come in ognuno dei suoi compartimenti," says E. Paseri, who has summarized and explained these materials, "il colore dei capelli che prevale di gran lunga è il castano, viene quindi il color nero e per ultimo il color biondo, il quale costituisce il colore predominante della capigliatura nel due e mezzo per cento appena dei comuni esaminati." ^{*)} Who would believe, without the evidence of history and language, merely on the basis of these scanty traces of the Aryan type in present-day Italy, that once there, and indeed repeatedly, the same element that still confronts us so strongly today in northern Europe had its numerous representatives. The blond color of the hair still appears most frequently in the provinces of Veneto and Piedmont in the north of the peninsula, the former of which is partly mountainous, the latter for the most part, but even here by no means in connection with the Aryan skull form; in both provinces the brachycephalic type is the almost exclusively occurring one. Italy is also of interest for our question because the works of Italian painting enable us to follow the decline of the Aryan type from century to century with our own eyes. A walk through any large gallery of paintings in which works by the Italian masters of the 15th and 16th centuries are represented teaches us that

^{*)} Archivio per l'antropologia e la etnologia. X. 210.

the Aryan, in this case probably Germanic, element was still strongly represented in Italy at that time; portraits and pictures of the Madonna predominantly show the blond type, which, however, appears all the more rarely in paintings the closer we come to the present.

The Aryan type has also become very rare in Greece. The fact that the ancient Hellenes - who can be distinguished from the pre-Hellenic Semitic Pelasgians - were blond, blue-eyed, white-skinned, tall and of dolichocephalic cranial build is taught to us by the testimonies of ancient writers^{*}), numerous depictions on vase paintings, Semitic types appear alongside genuine Aryan types, the works of Greek sculpture, both the images of gods and heroes and the portrait statues, not only by the shape of the individual parts of the body, such as the head in particular, but also by the type of painting,²) and finally the skulls found in Greece itself. Here too, decay must have occurred quite early. We can see this from the way in which Homer contrasts his contemporaries (οὗτοι βροτοὶ ἐπὶ βροτοῖσιν) with the ancient heroes. According to modern Greek popular belief, the "Hellenes" are nothing more than a lost race of ancient giants.⁴) Among 1172 modern Greeks sampled by Dr. Ornstein, only 65 were blue-eyed and among these

*) Van der Kinde re, Sur les caracteres physiques des anciens Grecs. Bulletin de la Societe d'anthropologie de Bruxelles. II. 8-13; Penka, Orig. ariac. 23.

²) The head of the well-preserved marble statue of Athena found in Athens on December 31, 1879, which is thought to be a replica of the famous statue of Athena in the Parthenon made by Phidias, still bears individual traces of the early painting: the hair protruding from under the helmet is yellow, the iris is painted black or blue, the eyelashes are indicated by light red lines. Cf. K. Lange, Die Athena Parthenos. Mittheilungen des deutschen archäologischen Institutes in Athen. V. 378. The terracottas from the best Greek times usually show reddish-blond hair and blue eyes; among the many thousands of figurines discovered at Tanagra in Boeotia, there is never any other color of hair and eyes, except for beings of inferior species, such as satyrs, slaves, and the like. Treu, G., Should we paint our statues? Berlin 1884. p. 34.

³) Homer, II. v. 304; XH. 383, 449; XX. 287. II. I. 271.

⁴) Schmidt, B., Das Volksleben der Neugriechen und das hellenische Alterthum. First part. Leipzig 1871. p. 203.

Again, there were only 26 who combined blond hair and white skin with blue eyes; the number of grey-eyed soldiers was 193 and among these there were only 12 who were both blond and white-skinned; the brown-eyed soldiers were represented by 914.¹) Dr. Clon Stdphanos came to similar conclusions on the basis of a survey of 1767 soldiers; he also found that the majority were dark-skinned. There were only large numbers of blondes in a few villages in Eurotas, in the mountains of Mantinea and on Mount Diphys in Euboea.)²

It is all the more remarkable that the ancient Hellenes, especially their Doric branch, which had survived more purely than the Jonians in ancient times,

still live on the island of Crete today, specifically on the Askyphe plateau in the White Mountains, in the brave Sphakiotes. These Sphakiotes are almost all tall figures with blue eyes, blond hair and a blooming complexion, while the other Cretans are more or less predominantly brown in color. They are proud of the purity of their blood and although they give their daughters to the Dutch, they do not allow any of them to marry into their family. Nor do the Sphakiotes married in the Netherlands and settled there, whose number is not small, bring their wives to their homeland.³) Henri Belle, who last visited them, also describes them as strong and tall people, most of whom have long blond hair, large bright eyes and a fine, regular face.⁴) Sieber also remarks of them that they are usually tall, beautifully built and walk with dignity, carry their heads somewhat more upright and are skilled hunters and soldiers.⁶) The Sphakiotes are an interesting example of the fact that the Aryan race is also fully preserved in the south when the land inhabited by members of the same race has a climate which, as a result of the elevation of the land and the proximity of the sea, does not differ from the climate of north-western Europe.

Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. 1879. S. 306.

²) Bulletins de la Société d'anthropologie de Paris. 3^e ser. VH. 658.

³) Augsburger Allgemeine Zeitung. 1867. supplement. No 38. p. 631.

⁴) Globe. XXXIV. 181.

⁶) Sieber, F. W., Reise nach der Insel Kreta. Leipzig and Sorau 1823.

. 456.

is substantially different. And the part of Crete inhabited by the Sphakiotes does indeed have such a climate. The White Mountains (now called the Madaras Mountains) reach an altitude of 2470 meters and as a result the winters are cold and long; in addition, as Sieber reports, no one lives in the villages in summer, but everything moves to the heights, from which they only descend for a while during the cutting season. Their main occupation and main source of income is cattle breeding, from the proceeds of which they cover most of their grain requirements. In order to appreciate the full significance of the fact that it is precisely in this part of the island that Aryans have survived in undiminished strength from ancient times to the present day, it should be remembered that the whole of Crete was colonized by Hellenic tribes (mostly Dorians, but also Ionians and Achaeans).

Similar conditions can also be seen in Eastern Europe. It is known that all Ugrian-Finnish peoples have absorbed numerous Aryan elements since they settled in Europe. This also applies to the Magyars. It is certainly significant that among this people these Aryan elements have only been preserved among the mountain dwellers, while they are far less common among the inhabitants of the plains. "From superficial personal

observation," says P. Hunfalvy, "it appears that the Magyars of the plain show more brown eyes and skin and more black hair than the Magyars of the mountainous regions. Among the Széklers there are many blond and blue-eyed individuals." ¹) We also know that the ancient Dacians (Getae) were blond. It is highly probable that we are looking at the descendants of the ancient Dacians in today's Mottos, a distinct Romanian type. The Romanian ethnographer Slavici describes these Mottos as people of tall and slender stature, with an elongated face, blue eyes that often peek out from under strikingly strong eyebrows, a long, pointed nose that is slightly curved here and there, finely cut lips, light (reddish-yellow) hair and a yellowish-white face color. Slavici expressly describes this type of man, which differs sharply from the other Romanian types, which are characterized by dark colouring, as

¹) Hunfalvy, P., *Die Ungern*. Wien und Teschen 1881. p. 251. the Romanian mountain type, which only rarely occurs in the plain. ¹)

The situation is similar in North Africa. The megalithic monuments (dolmens, menhirs, cromlechs, tumuli) of the same form as those found in Europe, which are spread all over North Africa, from Tangier to Barka, but especially over Algiers and Morocco, are full proof that Aryans were once settled there in large numbers. At present, however, the blond type is extinct in most regions and has only survived in the mountainous part of Algiers, especially in the Aures-6e mountains, and even more numerous in the high mountains of Morocco. "Le type blond," says Tissot, the former French minister-resident in Morocco, "is beaucoup plus frequent au Maroc que dans les autres contrées de l'Afrique septentrionale. D'après mes observations qui concordent avec celles que mon collègue d'Angleterre, sir John Drummond Hay, a pu faire pendant un séjour de plus de trente ans dans ce pays, on peut compter un tiers de blonds." It is significant, however, that most blondes are found on the heights of the Atlas Mountains. "Sur les hauts sommets de la chaîne atlantique," says the same Tissot, "d'après les renseignements qui nous ont été fournis la population tout entière serait remarquablement blonde." ²) Incidentally, the significance of the fact that Morocco is washed by the sea on two sides should not be overlooked.

The same phenomenon can also be seen in Asia, and a look at the Iranian peoples is of particular interest. The Ossetians in the central part of the Caucasus, who still call themselves Ir or Iron, are no longer unmixed Aryans, but the Aryan element is still strongly represented among them. According to Fr. v. Haxthausen, they never have black eyes and black hair, but blue eyes, blond, light brown and often red hair, an observation that Dubois de Montpereux also made on his journey in the Caucasus. The physiognomy of the people, the entire

physique and the whole habitus of the Ossetians are said to be 'quite different from those of all the surrounding Caucasian peoples'.

¹⁾ Slavici, Joan, *Die Rumänen in Ungarn, Siebenbürgen und der Bukowina*. Vienna and Teschen 1881. p. 133.

²⁾ *Revue d'anthropologie*. 1^{re} ser. V. 390, 391.

peoples. ^{x)} Even more instructive is a comparison of the physical type of the Persians with that of the linguistically related Kurds. In a letter from Ispahan dated July 7, 1879, General Houtum Schindler reports the following about the hair color of the tribes in Persia and on the Caspian Sea: "Red hair as well as blond hair is also considered an exception in Persia. Among the inhabitants of the cities one rarely sees blond hair, red hair never. The various tribes now living in Persia have a dark skin color and black or dark brown hair; only rarely do you see a light skin color and blue eyes. The original hair color of the women is never seen, as dyeing with henna leaves and indigo is common. Among the Gilek, the inhabitants of the province of Gilan on the Caspian Sea, I have noticed some men with blond hair and blond beards. I saw many blond-haired and dark-eyed men among the Ghiaswend Kurds, who live near Ghaswin in summer and Kermanscbah in winter. One of the chiefs of the Djudeki Luren tribe, Soleiman Chan, who lives near Khorremabad, has light blue eyes and a reddish blond beard. A Direkwend (Luren) chief, Shah Muhammed Chan, whom I saw in Dizful, had an uncolored red beard and dark blue eyes. The Turkish Affshar tribe has many blond men . . . Among 200 Baluchis in Rudbar (south of Kerman) was a fairly blond man. Seif Ullah Chan. Among the Armenians in Djulfa (Ispahan) I have only seen three blond men so far. Blond men are more common among the Armenians of Feridan." ²⁾

This corresponds to what Pidtremont reports about the complexion of the Persians according to Mirza Mohammed: "Il existe par- faitement en Perse des individus du type blond, tellement bien natu- ralis6 dans le pays, que, comme chez nous, dans une meme famille, les deux types sont mdlangds. This is what happens, for example, with Mirza Mohammed lui-meme: on his four children, one, the second,

¹⁾ Haxthausen, August, Freiherr von, *Transkaukasien*. Leipzig 1856. p. 33 and 47.

²⁾ *Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*. 1879. p. 306. As M. Wagner informs us, the Kjangarli in the province of Nakhichevan in Armenia (then 6473 individuals) are also characterized by blue eyes and blond hair. Wagner, M., *Reise nach dem Ararat und dem Hochland Armenien*. Stuttgart and Tübingen 1848. p. 238,

est blond, aux yeux châtain, mais au teint tres clair; tandis que les trois autres sont, comme leur pere et leur mfere, noirs de cheveux et fortement basan^s de teint. They are from Kirmanshah, a city that can only be passed for belonging to the Middle East. Le petit cadet blond tient cette particuliaretd de son grand-pere maternel qui est blond aux yeux bleus. Mirza Mohammed estimates the number of blondes in the entire Persian population at 2 per 100; this proportion would be 2 per 1000 in the province of Charaz (ancienne Susiane), and would increase steadily towards the north." ¹⁾)

The information about the Kurds is quite different. "Engineer Öernik," says Baron von Schweiger-Lerchenfeld in his treatment of the study results obtained by the aforementioned researcher, "found the earlier observation of the peculiar, one might say Nordic appearance of the Kurds to be completely accurate. In all parts of the countries they roamed, they were always the same blond-haired, blue-eyed, powerful figures full of energy and a wild urge for independence."²⁾ There can be no doubt that the Aryan element among the Kurds - for there is also an Aryan, strictly dependent population of farmers and workers who bear the name Guran - owes the preservation of its physical existence only to the high mountain character of Kurdistan. In neighboring Persia, which is much hotter, the same is, as we have just seen, almost completely extinct.

Among the Afghan tribes, too, there are people with blond hair, blue eyes and tall stature, mostly among the tribes that inhabit those parts of the country with a cold climate. After Prichard has shared the relevant facts based on the information provided by the first explorer of Afghanistan, Elphinstone, he makes the following comment: "I have been somewhat more extensive in this report on the Afghans, especially with regard to their physical character, since they can serve as an example of a race of people who are scattered in countries of different climates and different altitudes and temperatures and who, like other peoples, have a very different physical character.

¹⁾ Bulletins da la Socidtd d'anthropologie de Paris. 3° ser. II. 406.

²⁾ Schweiger-Lerchenfeld, Amand, Freiherr von, Öernik's technische Studien-Expedition durch die Gebiete des Euphrat und Tigris. Petermanns Mittheilungen. Supplement No. 45, p. 11.

of this kind, presents very great differences in physical character. The Afghans show all gradations of color from the black complexion of the Hindus to the high blond of other Indo-European nations. From what we know of their history, it is evident that this cannot be explained by the hypothesis of racial mixture, which is so often put forward. On the contrary, this phenomenon is exactly parallel to that which we are about to cite concerning the Hindus. The Hindus in the high regions of the Himalayan frontier, at the sources of the sacred rivers, although descended from the natives of Hindustan, have a fair complexion and blue eyes. From Elphinstone's statements, which contain only observed facts without the slightest theory, it appears that the tribes living in the table-land in the west of Afghanistan are light-colored, have European faces and high fair complexions, while families of the same race on the Indus are black or nearly black, with a preponderance of dark complexions in the east, and light ones in the west. The mountain dwellers are light* colored in all parts, while the Kafirs or Siah-Posh, who live on the high

mountains above the Afghans, "as we shall see later, are completely blond. *)^{4j}

With regard to the light complexion of the inhabitants of the higher region in the Rajasthumb of Garhwal, where the great rivers, the Jumna and the Ganges, have their source, Prichard refers to Fraser, who says of the people living there that their complexion is usually very light, although very sunburnt, their eyes are often blue, their hair and beards curly and of a light and even red color. Following on from this, Prichard quotes Fraser's description of the 80-100 Patan soldiers from Afghanistan who had accompanied the latter on his expedition to the Sutlej hills. They had looked soldierly and impressive; many of them had red hair, blue eyes and a bright florid color. ²⁾

Of the Siah-Posh, Prichard remarks, after proving their language to be Sanskrit and their customs to be Sanskrit according to

¹⁾ Prichard, Natural History of the Human Race. III. 2. 8. 93.

²⁾ Prichard, op. cit. 217.

Penka, The Origin of the Aryans.

described by Elphinstone and Burnes, literally the following: "The

Most interesting in the history of the Siah-Posh or Kafirs of

Hindu Kush is the fact that it is undoubtedly ^ur Hindurace

-belong to them, for their language proves it, and as they inhabit a high and cold country, they have the sanguine or high blond complexion of the northern Europeans'. ')

The famous English ethnologist quite correctly recognized that there was a connection between the light complexion of the peoples mentioned and the cold climate of the countries they inhabited; only it was not the connection he assumed. hese fair-haired and blue-eyed people do not, as he supposed, owe the development of their complexion to the cold climate of these countries, but they merely owe it to the cold climate.

I ' the preservation of the same. If Prichard's assumption were correct,
' then all Himalayan and Hindu Kush inhabitants as well as all
Inhabitants of the mountainous parts of Afghanistan, indeed the inhabitants of
all ; northern regions of the earth, are blond, which, as is well known, is by no means
the case; . By the way, the reports of Elphinstone and
Fraser's Prichard is not at all justified in speaking of the occurrence of blond-
haired and blue-eyed people in the mountainous parts of Afghanistan and India as a general
phenomenon.
[speak. However, in order not to give in to his theory from the outset, he had to
the basis, so to speak; if he had presented the cases as they really are, then he would
have, since he had not taken the
i rejected the assumption of a mixture, to an attempt by the
j Explanation of the occurrence of blond-haired and blue-eyed people
in these areas at all.

We now have reliable information, based on direct observation, about the
physical habitus of the Siah-Posh in particular, from which it emerges that
although they do not all have the highly blond complexion of northern Europeans,
they do have their representatives - which has been denied in recent times in the
face of older information. The English engineer McNair, the first European ever
to enter the interior of Kafiristan (in 1883), describes the country and its
inhabitants in the following words: "Their country is picturesque, densely

) Prichard, op. cit. 223.

wooded, and wild in the extreme; the men of fine appearance, with sharp Aryan features
and keen penetrating eyes; blue eyes are not common but do occur, but brown eyes and
light hair even to a golden hue in combination are not at all uncommon. The general
complexion varies to two extremes, that of extreme fairness-pink rather than blonde, and
the other of bronze, quite as dark as the ordinary Panjabi. The cast of features seems
common to both these complexions, but the fairer men if asked will indicate the dark men
as having come from the south and they themselves have come from the north and east." x
)

Thus, while we see that the Aryan race in the southern countries of Europe,
in North Africa and in Asia has only survived in high-lying regions near the sea,
we find that in Scandinavia and the neighboring regions, not only in the
mountainous parts, but also in the plains, it continues unchanged and without a
trace of degeneration. Among the Scandinavian countries, Norway, whose
Germanic-Aryan population occupies first place in physical terms not only among
the peoples of Europe in general, but also among the other Scandinavian peoples,
is a clear indication that the climatic conditions of the country must have a certain

resemblance to those climatic conditions under the influence of which quaternary man became an Aryan during the so-called Ice Age in Central Europe.

With the exception of the Icelanders, the Norwegians have the tallest stature in Europe (1.720m according to J. Hunt); in this respect they surpass the Swedes (1.700 according to Beddoe), the Scots (1.716 according to Gould, 1.708 according to Beddoe), the English (1.730 according to Hutchinson, 1.701 according to Gould), the Danes (1.685 according to Beddoe) and the Germans (1.695 according to Gould) and, of course, all Central, Eastern and Southern European countries.

^{j)} Proceedings of the Royal Geographical Society. VI (London 1884), p. 10. There can be no doubt that the Siah-Posh are a mixed race resulting from the union of the Aryan race with the pre-Aryan inhabitants of the country. According to General A. Abbot, the people of the light type with blue eyes represent the aristocracy of the country (see A. H. Keane in *Nature*. XXL (1880), p. 278), a statement which, in view of the analogous appearance in the Aryan countries of Europe, has a great intrinsic probability.

Völker.^x) With the exception of Saxony, Norway's annual population increase is greater than that of any other country in Europe; it amounted to an average of 1.13 per cent for the period from 1815 to 1877, while in Sweden it was only 0.95 per cent for the same period.²) In Prussia from 1830-77: 1.03 per cent, in Great Britain and Ireland from 1801-77: 0.89 per cent, in Austria (Cisleithania) from 1830-77: 0.73 per cent, in Hungary from 1860-76: 0.54 per cent, in Bavaria from 1818-76: 0.53 per cent, and in France from 1800-76: 0.24 per cent. As a result, the population of Norway doubled in a period of 61.7 years, whereas a period of 71.8 years is required to double the population of Sweden. This large increase in Norway's population took place despite a strong emigration, which took place at the same time and was by no means able to compensate for the weak immigration. According to Broch

while	who emigrated for ten years from 1836-1845	62
<i>n</i>	" <i>n</i> " 1846-1855	" 3227
<i>r</i> >	" " " 1856-1865	" 3335
<i>n</i>	" five " 1866-1870	" 7533
	" " " 1871-1875	" 81

The main reason for Norway's large population increase lies not only in the large number of births but also in the longer lifespan and low infant mortality rate, in which respect Norway again ranks first among all European countries. While in Norway for the period from 1856 to 1865 there were on average 310 children born alive per 1000 wives aged 20 to 45 and 263 per 1000 wives aged 15 to 50, the corresponding figure for Sweden was 276 per 1000 wives aged 30 to 45 and 222 per 1000 wives aged 15 to 50. In France, there were on average only 174 births of live children per 1000 wives aged 15 to 50. While in the other European countries the mortality rate of children in the first year of life was 15 to 30 percent, and in some countries even more than 30 percent, in France it was

¹) Topinard in the *Revue d'anthropologie*. 1^{re} ser. V. 78; he treats this question comprehensively in his *Elements d'anthropologie g ndrale*. Paris 1885. p. 477-499.

²) Broch, O. J., *Le royaume de Norvege et le peuple norvegien*. Christiania 1878. p. 219.

In Norway, for the period from 1836 to 1873, it averaged only 11 per cent. While outside Scandinavia the fourth part of all children perish without reaching the age of five years, the young generation of Norwegians only drops to three quarters towards the age of eighteen. In general, the mortality rate in Norway is more favorable than in any other country in Europe. While in the years 1865 to 1877 there were on average 22.2 deaths per 1000 inhabitants in England and Wales, 24.0 in France, 27.4 in Prussia, 28.8 in Saxony, 29.9 in Italy, 31.0 in Bavaria, 31.5 in Austria (Cisleithania), 32.8 in Württemberg and even 38.4 in Hungary, according to Broch, in Norway there were on average only 17.6 deaths per 1000 inhabitants in recent years. According to Broch, the average life expectancy for men in Norway is 47.4 years, which is 5.2 years longer than in Sweden, 3.8 years longer than in Denmark, 10 years longer than in Belgium and 8.3 years longer than in France. For women, it is 4.2 years more in Norway than in Sweden, 4.5 years more than in Denmark, 11.1 years more than in Belgium and 9.4 years more than in France. In no other European country do the highest ages have as many representatives as in Norway, as can be clearly seen from Broch's compilation (Annex XVIII):

Men											
Age	Norway 1836-70	Sweden 1861-70	Denmark 1860-70	Belgium 1856-60	France 1856-65	Age	Norway 1856-65	Sweden 1861-70	Denmark 1860-70	Belgium 1856-60	France 1856-65
0	100	1000	10	10	1000	9	33	3	-	6	-
1	100	1000	10	10	1000	9	23	2	-	5	-
2	100	1000	10	10	1000	9	16	1,4	-	4	-
3	100	1000	10	10	1000	9	11	0,6	-	2	-
4	100	1000	10	10	1000	9	8	0,3	-	0	0
5	100	1000	10	10	1000	9	5	0,1	-	-	0
6	100	1000	10	10	1000	9	2	0	-	-	-
7	100	1000	10	10	1000	9	1	-	-	-	-
8	100	1000	10	10	1000	9	0	-	-	-	-
9	100	1000	10	10	1000	9	0	-	-	-	-
10	100	1000	10	10	1000	9	0	-	-	-	-
11	100	1000	10	10	1000	9	0	-	-	-	-
12	100	1000	10	10	1000	9	0	-	-	-	-
13	100	1000	10	10	1000	9	0	-	-	-	-
14	100	1000	10	10	1000	9	0	-	-	-	-
15	100	1000	10	10	1000	9	0	-	-	-	-
16	100	1000	10	10	1000	9	0	-	-	-	-
17	100	1000	10	10	1000	9	0	-	-	-	-
18	100	1000	10	10	1000	9	0	-	-	-	-
19	100	1000	10	10	1000	9	0	-	-	-	-
20	100	1000	10	10	1000	9	0	-	-	-	-
21	100	1000	10	10	1000	9	0	-	-	-	-
22	100	1000	10	10	1000	9	0	-	-	-	-
23	100	1000	10	10	1000	9	0	-	-	-	-
24	100	1000	10	10	1000	9	0	-	-	-	-
25	100	1000	10	10	1000	9	0	-	-	-	-
26	100	1000	10	10	1000	9	0	-	-	-	-
27	100	1000	10	10	1000	9	0	-	-	-	-
28	100	1000	10	10	1000	9	0	-	-	-	-
29	100	1000	10	10	1000	9	0	-	-	-	-
30	100	1000	10	10	1000	9	0	-	-	-	-
31	100	1000	10	10	1000	9	0	-	-	-	-
32	100	1000	10	10	1000	9	0	-	-	-	-
33	100	1000	10	10	1000	9	0	-	-	-	-
34	100	1000	10	10	1000	9	0	-	-	-	-
35	100	1000	10	10	1000	9	0	-	-	-	-
36	100	1000	10	10	1000	9	0	-	-	-	-
37	100	1000	10	10	1000	9	0	-	-	-	-
38	100	1000	10	10	1000	9	0	-	-	-	-
39	100	1000	10	10	1000	9	0	-	-	-	-
40	100	1000	10	10	1000	9	0	-	-	-	-
41	100	1000	10	10	1000	9	0	-	-	-	-
42	100	1000	10	10	1000	9	0	-	-	-	-
43	100	1000	10	10	1000	9	0	-	-	-	-
44	100	1000	10	10	1000	9	0	-	-	-	-
45	100	1000	10	10	1000	9	0	-	-	-	-
46	100	1000	10	10	1000	9	0	-	-	-	-
47	100	1000	10	10	1000	9	0	-	-	-	-
48	100	1000	10	10	1000	9	0	-	-	-	-
49	100	1000	10	10	1000	9	0	-	-	-	-
50	100	1000	10	10	1000	9	0	-	-	-	-
51	100	1000	10	10	1000	9	0	-	-	-	-
52	100	1000	10	10	1000	9	0	-	-	-	-
53	100	1000	10	10	1000	9	0	-	-	-	-
54	100	1000	10	10	1000	9	0	-	-	-	-
55	100	1000	10	10	1000	9	0	-	-	-	-
56	100	1000	10	10	1000	9	0	-	-	-	-
57	100	1000	10	10	1000	9	0	-	-	-	-
58	100	1000	10	10	1000	9	0	-	-	-	-
59	100	1000	10	10	1000	9	0	-	-	-	-
60	100	1000	10	10	1000	9	0	-	-	-	-
61	100	1000	10	10	1000	9	0	-	-	-	-
62	100	1000	10	10	1000	9	0	-	-	-	-
63	100	1000	10	10	1000	9	0	-	-	-	-
64	100	1000	10	10	1000	9	0	-	-	-	-
65	100	1000	10	10	1000	9	0	-	-	-	-
66	100	1000	10	10	1000	9	0	-	-	-	-
67	100	1000	10	10	1000	9	0	-	-	-	-
68	100	1000	10	10	1000	9	0	-	-	-	-
69	100	1000	10	10	1000	9	0	-	-	-	-
70	100	1000	10	10	1000	9	0	-	-	-	-
71	100	1000	10	10	1000	9	0	-	-	-	-
72	100	1000	10	10	1000	9	0	-	-	-	-
73	100	1000	10	10	1000	9	0	-	-	-	-
74	100	1000	10	10	1000	9	0	-	-	-	-
75	100	1000	10	10	1000	9	0	-	-	-	-
76	100	1000	10	10	1000	9	0	-	-	-	-
77	100	1000	10	10	1000	9	0	-	-	-	-
78	100	1000	10	10	1000	9	0	-	-	-	-
79	100	1000	10	10	1000	9	0	-	-	-	-
80	100	1000	10	10	1000	9	0	-	-	-	-
81	100	1000	10	10	1000	9	0	-	-	-	-
82	100	1000	10	10	1000	9	0	-	-	-	-
83	100	1000	10	10	1000	9	0	-	-	-	-
84	100	1000	10	10	1000	9	0	-	-	-	-
85	100	1000	10	10	1000	9	0	-	-	-	-
86	100	1000	10	10	1000	9	0	-	-	-	-
87	100	1000	10	10	1000	9	0	-	-	-	-
88	100	1000	10	10	1000	9	0	-	-	-	-
89	100	1000	10	10	1000	9	0	-	-	-	-
90	100	1000	10	10	1000	9	0	-	-	-	-
91	100	1000	10	10	1000	9	0	-	-	-	-
92	100	1000	10	10	1000	9	0	-	-	-	-
93	100	1000	10	10	1000	9	0	-	-	-	-
94	100	1000	10	10	1000	9	0	-	-	-	-
95	100	1000	10	10	1000	9	0	-	-	-	-
96	100	1000	10	10	1000	9	0	-	-	-	-
97	100	1000	10	10	1000	9	0	-	-	-	-
98	100	1000	10	10	1000	9	0	-	-	-	-
99	100	1000	10	10	1000	9	0	-	-	-	-
100	100	1000	10	10	1000	9	0	-	-	-	-

Women											
Age	Norway 1836-70	Sweden 1861-70	Denmark 1860-70	Belgium 1856-60	France 1856-65	Age	Norway 1856-65	Sweden 1861-70	Denmark 1860-70	Belgium 1856-60	France 1856-65
0	100	1000	10	10	1000	9	33	3	-	6	-
1	100	1000	10	10	1000	9	23	2	-	5	-
2	100	1000	10	10	1000	9	16	1,4	-	4	-
3	100	1000	10	10	1000	9	11	0,6	-	2	-
4	100	1000	10	10	1000	9	8	0,3	-	0	0
5	100	1000	10	10	1000	9	5	0,1	-	-	0
6	100	1000	10	10	1000	9	2	0	-	-	-
7	100	1000	10	10	1000	9	1	-	-	-	-
8	100	1000	10	10	1000	9	0	-	-	-	-
9	100	1000	10	10	1000	9	0	-	-	-	-
10	100	1000	10	10	1000	9	0	-	-	-	-
11	100	1000	10	10	1000	9	0	-	-	-	-
12	100	1000	10	10	1000	9	0	-	-	-	-
13	100	1000	10	10	1000	9	0	-	-	-	-
14	100	1000	10	10	1000	9	0	-	-	-	-
15	100	1000	10	10	1000	9	0	-	-	-	-
16	100	1000	10	10	1000	9	0	-	-	-	-
17	100	1000	10	10	1000	9	0	-	-	-	-
18	100	1000	10	10	1000	9	0	-	-	-	-
19	100	1000	10	10	1000	9	0	-	-	-	-
20	100	1000	10	10	1000	9	0	-	-	-	-
21	100	1000	10	10	1000	9	0	-	-	-	-
22	100	1000	10	10	1000	9	0	-	-	-	-
23	100	1000	10	10	1000	9	0	-	-	-	-
24	100	1000	10	10	1000	9	0	-	-	-	-
25	100	1000	10	10	1000	9	0	-	-	-	-
26	100	1000	10	10	1000	9	0	-	-	-	-
27	100	1000	10	10	1000	9	0	-	-	-	-
28	100	1000	10	10	1000	9	0	-	-	-	-
29	100	1000	10	10	1000	9	0	-	-	-	-
30	100	1000	10	10	1000	9	0	-	-	-	-
31	100	1000	10	10	1000	9	0	-	-	-	-
32	100	1000	10	10	1000	9	0	-	-	-	-
33	100	1000	10	10	1000	9	0	-	-	-	-
34	100	1000	10	10	1000	9	0	-	-	-	-
35	100	1000	10	10	1000	9	0	-	-	-	-
36	100	1000	10	10	1000	9	0	-	-	-	-
37	100	1000	10	10	1000	9	0	-	-	-	-
38	100	1000	10	10	1000	9	0	-	-	-	-
39	100	1000	10	10	1000	9	0	-	-	-	-
40	100	1000	10	10	1000	9	0	-	-	-	-
41	100	1000	10	10	1000	9	0	-	-	-	-
42	100	1000	10	10	1000	9	0	-	-	-	-
43	100	1000	10	10							

Women

3	o	i	turn 170	Denmark 1000 00	algae 1000	g 00	Mfar	23 100 £2	0 0 0	Denmark 1000 00	20 PQ	inkreich g00 00 H
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0	100 00	1000 0	10 00	100 00	1000 0	9 6	67	10	-	5	1	-
-	-	-	-	-	-	9	48	6	-	1	-	-
-	-	-	-	-	-	9	34	4	-	6	-	-
-	-	-	-	-	-	9	23	2	-	4	-	-
9	3	101	1	10	68	1	15	1	-	0	0	0
9	2	7	-	8	-	1	10	0	-	-	0	0
9	2	5	-	6	-	1	6	0	-	-	--	-
9	1	3	-	5	-	1	3	0	-	-	-	-
9	1	2	-	3	-	1	1	-	-	-	-	-
9	9	1	3	2	8	1	0	-	-	-	-	-
5	2	4	0	4		0		-	-	-	-	-

There is one aspect in particular that the above figures clearly highlight: the not inconsiderable difference in the population conditions of Norway compared to those of Sweden. Considering that both countries lie below the same latitude, that the inhabitants belong to one and the same tribe, and that there are no radical differences in housing, food and lifestyle, it is certainly striking that the population conditions of Norway are more favorable than those of Sweden, however favorable Sweden's conditions are in comparison with those of the other countries of the European continent. In this case, there can be no doubt that the more favorable population conditions in Norway have their cause in the climatic conditions of the country, insofar as they differ from those of Sweden. In Norway the air is damp and foggy, the amount of rain falling is considerable, the winters are mild and the summers cold. In a word, Norway has a distinctly island climate, without great extremes of temperature. In Sweden, on the other hand, the sky is clearer, the air drier, the amount of rain falling less significant, the winters there are cold and the summers cold.

Warm in summer, phenomena typical of the continental climate.¹

In view of the observations that have been made on humans and within the animal world, one could now explain^{XXXIII XXXIV}) the more favorable population

XXXIII*) While the annual rainfall in Christiania is 538, in Christiansund 925, in Ålesund 1148, in Bergen 1835, in Florö even 1912 millimeters, the average annual rainfall for the whole of Sweden according to E. Siden- bladh (Royaume de Suede. Stockholm (1878), p. 21) for the period 1860-1872 was 522.7 millimeters. Only the parts of southern Sweden bordered by Skager Rack and Kattegat have a greater amount of rain (up to 850 millimeters).

XXXIV) S e m p e r, K., Die natürlichen Existenzbedingungen der Thiere. 39th and 40th vol. of the international scientific library. Leipzig 1880. 39th vol., pp. 160--172: Influence of constant but different high temperatures.

conditions in Norway from the greater uniformity of temperature, without in any way asserting the significance of the racial moment as such in this explanation. Today, however, the results of prehistoric research have put us in a position to provide an even more plausible explanation of the phenomena in question by emphasizing the racial moment than is possible from the standpoint of observing nature only in the present. The Aryan race thrives better in Norway than in Sweden and the other Aryan countries because the climatic conditions of the country are such as they once existed in the Quaternary period in the western part of Central Europe, i.e. in the period during which, and in the part of the earth on which, the Aryan race experienced its physical formation. It is self-evident that the climatic conditions under the influence of which a race originated will prove the most suitable to preserve it, but that any climatic deviation, however insignificant it may appear, will not fail to exert its harmful influence in the course of time.

The question of the climate of the western part of Central Europe during the Quaternary period has been answered in different ways, depending on whether one or the other faunistic factor is given the decisive importance in answering it, or whether certain geological theories, such as Richthofen's theory of loess formation, are taken into account.

believed to have to bear. However, if one takes all factors into consideration in the same way, as Much did in his work on this question, the result can be no other than that Central Europe during the Quaternary period did not really have an arctic climate, but a cold and also humid climate, without great differences in summer and winter temperatures, i.e. a climate which, among all European countries, corresponds most closely to the climate of Norway. ^{x)}

This fact explains in the simplest way, on the one hand, that in those countries of Europe which similarly enjoy a moderately cold island climate, such as Scotland, England, Holland, north-western Germany, Denmark, etc., the Aryan race is vigorously maintained; on the other hand, that in those countries which have a warm climate, or whose climate possesses the peculiarities of the so-called continental climate - dry air, extreme

^{*)} Much, M., Ueber die Zeit des Mammuth im Allgemeinen und über einige Lagerplätze von Mammuthjägern in Niederösterreich im Besonderen. Mittheilungen der Anthropologischen Gesellschaft in Wien. XI. 18-54. E. Lartet, Marquis Saporta and Dupont came to the same conclusion. Saporta^ Gaston de, Marquis, Sur le climat presumd de l'öpoche quaternaire dans l'Europe centrale, d'apres des indices tires de l'observation des plantes. Compte rendu du Congres de Stockholm. I. 80-109. Dupont expressed himself at the same congress in the following way (op. cit. 110): . . . d'apres ces donnees, j'ai cru devoir conclure avec M. E. Lartet ä un climat uniforme ne supportant pas de grands ecart de temperature. A cette uniformite de temperature se joignait une grande humidite qui a ötd deduite de considerations g^ologiques par MM. Prestwich and Beigrand, and the physicists of their cöte sont venus prouver que l'extension des glaciers vers cette möme epoche exigeaitd cette humiditd. It was therefore possible to conclude that the climate of western Europe had almost the same characteristics as the insular climate during the Quaternary period." The great uniformity of the moderately cold climate explains, on the one hand, the physical strength that the Aryans acquired as early as the Quaternary period, and on the other hand, we must take into account the fact that the Turanian race did not become light-colored like the Aryan race in its equally cold, highly Asiatic homeland, we must assume that, in addition to the temperature, the humidity of the air also acted as an essential factor in the development of the blond complexion, as Kant also already stated in his treatise "Von den verschiedenen Racen der Menschen" (1775) (J.Kant's sämmtliche Werke herausgeg. von G. Hartenstein. II. 450), Kant attributed the development of the highly blond complexion of northern Europeans to the influence of damp cold. -

temperatures in summer and winter, by day and by night - undergoes a gradual process of degeneration, sometimes only clearly perceptible after many generations, which finally ends in its complete extinction.

This is the only simple explanation for the anthropological conditions we encounter in Eastern Europe. The further we move away from the west of Europe towards the east, the more the temperature extremes increase and the humidity of the air decreases. In the latter respect, the whole of Europe is divided into a western half blessed with humidity and a dry eastern half, and the border between these two halves forms a line that stretches from Königsberg to the mouth of the Danube.*) -

It is certainly no coincidence that as we move away from this frontier towards the east, that is, as the air becomes drier and the whole climate assumes more and more the character of the continental climate, the Aryan type becomes rarer, although it is certain from historical evidence and craniological discoveries that the east of Europe was once inhabited by numerous Aryan peoples who also bore the characteristics of the Aryan type in somatic terms. Even if we assume that some of these peoples gave up their homes voluntarily or were forced to do so, this assumption alone cannot explain the fact that in the

It should also be noted that the climate in many areas of Western Europe is not as humid as it could be geographically, due to deforestation and the draining of swamps. This has not only led to an increase in temperature extremes, but also to a decrease in rainfall. Cf. Kerner, A., *Pflanzenleben der Donauländer*. Innsbruck 1863. pp. 76-90. This applies in particular to Germany, which Tacitus (Germ. 2 and 5) still describes as *aspera coelo* and *silvis horrida aut paludibus foeda*. The change in climate brought about by the large-scale clearing of the forests could by no means remain without detrimental consequences for the Aryan elements living in Germany. As a passage from Caesar shows, the ancient Gauls already recognized the beneficial influence of the forests on the moderation of temperature extremes and chose the places for their settlements accordingly. Caesar (B. G. VI. 30) reports: ". . . aedificio circumdato silva, ut sunt fere domicilia Gallorum, qui vitandi aestus causa plerumque silvarum atque fluminum petunt propinquitates."

Eastern Europe and further into Asia, the Aryan type is now only a very rare exception.)²

The anthropological conditions of Galicia, which is still within the aforementioned. Galicia, which has been researched quite thoroughly, are of interest in this respect. According to Majer and Kopernicki, whose work is based on surveys of adults, the blond type is represented among the Poles of Galicia by 35.4%, but among the Ruthenians by only 24.0%.²) The surveys carried out on schoolchildren also led to similar results in that they also found the blond type to be more common among Poles: 22.5% of the schoolchildren examined in the Polish language area belonged to the blond type, whereas only 18.3% belonged to the same type in the Ruthenian language area.⁸) However, while there are still many blondes among the Ruthenians of Galicia, the Little Russians - with the exception of the Poleszczuki (Waldbewolmer) - are by far predominantly of darker complexion.⁴) Similarly, the Ugro-Finnish tribes living in the east and north-east are less blond and more brachycephalic than their fellow tribesmen living in the west, especially the inhabitants of the Grand Duchy of Finland. Even if one duly takes into account the former emigration of Altar elements from the area of today's Little Russia, which I have made probable elsewhere, when considering the anthropological conditions of Eastern Europe, one cannot help but recognize the effect of the climate in the increasingly rare occurrence of the blond type from west to east. On the other hand, one can see from the fact that the blond type is more common among Poles than among the French, despite the fact that repeated Aryan invasions to France have been a major factor.

*) The Aral-Caspian steppes, where some scholars place the homeland of the Aryans, are among the driest regions on earth. The annual rainfall in Astrakhan is 143 millimetres, in St. Alexandrovsk on the eastern shore of the Caspian Sea 131 millimetres and in Nukus on the Amu-Darya only 71 millimetres.

²) Majer, J. i Kopernicki, J., Charakterystyka fizyczna ludnosci galicyjskiej. W Krakowie 1876. p. 111.

³) Schimmer, G. A., Surveys on the color of the eyes, hair and skin of Austrian schoolchildren. Vienna 1884. p. IX.

⁴) Diebold, W., Ein Beitrag zur Anthropologie der Kleinrussen. Dorpat 1886. p. 17 fg.

It is quite clear from the research that has been carried out in the past that a cold, albeit less humid climate is still more favorable to the preservation of the Aryan race than a more humid but warmer climate, such as that which prevails in the central and southern parts of France.

Even if it is true, as reported by various sources, that the descendants of English people who have moved to the United States of North America degenerate in the course of time, even in those states that enjoy a temperate climate, the main cause of this phenomenon can likewise only be regarded as the great dryness of the air and the continental character of the climate there in general. For although the amount of rain that falls in the United States is by no means less, but on the contrary rather greater than in Europe (also in England), the air is nothing less than humid as a result of the drying westerly winds. In" the southern states, the dry air is accompanied by great heat and it is therefore quite natural that the signs of degeneration appear there even earlier and more clearly than in the northern states. A direct confirmation of this explanation can also be found in the observations made in Northern California in the short time since it became part of the Union on immigrants from the Eastern States: under the influence of the climate of this country, which is characterized by a great uniformity of temperature^{XXXV XXXVI}) and greater humidity of the air, the physical character of the latter has changed considerably and to its advantage.

If the Aryan race, which, as noted above, experienced its physical formation in the diluvial period, has today only survived in Scandinavia and the countries neighboring Scandinavia, countries which, significantly, also have the most important state formations of the present day in political and cultural terms, and not only in the mountainous, but also in the flat parts, outside this area in the eastern half of the northern hemisphere only in mountainous regions, in the hot zone only in high mountainous countries (in the Pyrenees, the Asturian-Cantabrian mountains, in the White Mountains of Crete, in the High Atlas, in the Caucasus, in the Armenian Mountains, in the Kurdistan Mountains, in the Hindu Kush) in a larger number of representatives, this phenomenon is also not without analogy in the area of flora and fauna. Some of the flora and fauna from the glacial period in Central Europe also show a similar distribution at present. "There is no mistaking," says Zittel,^x), "that in the Arctic countries and on the high mountains of Europe, Asia and North America we have a large number of plants and animals that have survived directly from the Ice Age. How else can we explain the fact that a considerable part of the Scandinavian flora in the Alps, Carpathians and Pyrenees astonishes the plant geographer, and that even isolated heights such as the Harz, the Sudeten, the high Rhone, the Albis chain

XXXV*) Hunt, J., On the acclimatization of Europeans in the United States of America (Anthropological review. VIII. 109-137) provides further evidence for this view.

XXXVI*) Zittel, K., Aus der Urzeit. Munich 1875. 8. 580.

and a number of smaller island mountains appear adorned on their summits with vegetation that we only find miles away in the polar countries or the snow-capped peaks of Central Europe? English naturalists have long proven the existence of an alpine or Scandinavian flora on the mountains of Scotland, Wales and Ireland and have noted that individual mammals, birds, reptiles, many insects and conchylia also have similarly fragmented distribution areas. Now that a considerable part of this Nordic-Alpine flora and fauna has come to light in the glacial diluvium, what could be more obvious than to recognize in it the crumbled remains of a creation that was once spread all over Europe? Rarely has a hypothesis in geology been greeted with such acclaim as the one that derives ■part of our high mountain vegetation and animal population from the diluvial period, but rarely has a whole chain of complex phenomena been explained in a simpler way."

It is clear from these explanations that the laws governing the distribution of organisms are the same for the plant, animal and human kingdoms. In the same areas where the Nordic-diluvial flora and fauna have disappeared, the unmixed Aryans have also become rare despite repeated immigration.

XII.

The realization that the Aryan race can only be propagated in Scandinavia and countries adjacent to Scandinavia or countries whose climatic conditions are not essentially different from the climatic conditions of Scandinavia, and that outside this area of distribution it is sooner or later subject to the effects of the foreign climate, makes it possible to discover the actual starting point and the source of all the errors to which Aryan ethnology has so far fallen prey. Since, on the one hand, in a whole series of countries where Aryan languages are spoken, the Aryan element is at present either not represented at all or only in faint traces, and since there is every probability that even in the comparatively late period - not long before the beginning of our era - when the Germanic peoples first entered the scene of history the Aryan elements in the composition of the various Aryan peoples, especially the two classical peoples, had already attained numerical predominance, on the other hand the Germanic peoples, precisely because they had only just left their Scandinavian homeland, still exhibited all those characteristic features which we must now regard as common to the Aryan type, and even at the present time the Aryan type still has most of its representatives among the Germanic peoples: It is easy to understand that for a long time everything that showed the Aryan type anywhere was regarded as specifically Germanic and still is at present. When Abel R4musat first found the information in the works of Chinese historians that various peoples once lived in the plains of Turkestan who were distinguished from the surrounding nations by their blond hair and blue eyes, both Abel Remusat and J. von Klap- roth believed that they had found the

ancestors of the later Goths in these peoples. When skulls of the Aryan type were found in the prehistoric graves of the Russian-Polish lands, the province of Prussia, Germanic peoples (Goths, Bastarns) were again immediately named to whom these skulls were attributed. And when news was received of the numerous blondes in Algiers and Morocco, it seemed natural to see in them the last remnants of the Vandals. The fact that the "Celts" were also labeled as Germanic because of their physical characteristics has already been mentioned ■p. 18.

The obvious question of how it came about that among all the Aryan peoples only the Germanic peoples became blond, blue-eyed, white-skinned and dolichocephalic has either not been raised at all or has been answered unsatisfactorily and the fact that there are and have been blond and blue-eyed peoples, for whom there is not the slightest indication that they belong to the Germanic peoples, has been completely ignored.

Others, on the other hand, believed they had to draw completely different conclusions from the special anthropological position of the Germanic peoples within the Aryan world. These are some of the researchers who subscribe either to the polygenistic theory or to the theory of the stability of the physical type or to both theories at the same time: since, as they maintain, the assumption of a common origin of the Germanic and the other Aryan peoples is impossible because of the difference in physical and mental habitus, the assumption of a linguistic relationship between the Germanic and the other Aryan languages is also inconceivable; the linguistic similarities which are asserted for the assumption of the common origin of the Aryan languages are based merely on borrowing. The so-called Aryan theory, i.e. the assumption that all Aryan peoples and languages have a common origin, belongs to the realm of scholarly fables. The most decisive expression of this view was given by Crawfurd. In a treatise of his own dealing with this question, the same, 2 came to the following conclusion:

"From the facts I have adduced in the course of this paper I must "Come to the conclusion that the theory which makes all the languages of Europe and Asia from Bengal to the British Islands, however different in appearance, to have Sprung from the same -stock, and hence, all the people speaking them, black, swarthy, and. fair, to be of one and the same race of man, is utterly ground- less, and the mere dream of very learned men, and perhaps even more imaginative than learned. I can by no means, then, agree with a very learned professor of Oxford (M. Müller), that the same blood ran in the veins of the soldiers of Alexander and of Clive as in those of the Hindus whom, at the interval of two-and-twenty ages, they both scattered with the same facility etc."¹)

To Crawfurd, who knew the peoples of India from his own long years of observation, it seemed a gross impertinence to believe that the peoples of northern

India were blood relatives of the English, whereas the peoples of southern India were to be regarded as a separate race and separated from the Hindus on the basis of linguistic differences, since they had the same stature, the same physique, the same dark complexion, the same mental endowment and were probably also on the same level of civilization.^{XXXVII XXXVIII}) In this Crawford is undoubtedly right when he asserts that the English, like all Germanic peoples in general, and the Hindus are two fundamentally different races and that the Hindus, who speak Aryan idioms, and the peoples of South India, whose languages do not belong to the Aryan family, belong to one and the same race; but it was also equally incorrect to deny the common origin of the Aryan idioms of India and the other Aryan languages of Asia and Europe for this reason. Nor can the common origin of all Aryan languages be subject to the slightest doubt; it was only incorrect to infer from the common origin of the Aryan languages also the common origin of the peoples speaking these languages.

While Crawford and other researchers were led to deny the common origin of the Aryan languages by the diversity of the physical and mental habitus of the individual Aryan peoples, it was precisely the proof of the common origin of the Aryan languages that led a number of scholars to regard the physical and mental peculiarities by which the individual Aryan peoples differ from one another as something that did not exist from the very beginning, that only arose later through the influence of the environment and was subject to constant change. In contrast to these phenomena of variability of the physical type, language represents the moment of activity, not only among the Aryan peoples, but also among all other peoples of the earth.

Therefore, in the question of the origins of any people, in any ethnological attempt at classification, it is primarily linguistics and not anthropology that must decide.*) The reference to Darwinian theory should make these theorems appear all the more plausible.)²

¹) The more notable representatives of these views are: Waitz, Th., *Anthropologie der Naturvölker*. 2nd ed. with additions by the author, enlarged and edited by G. Gerland. 1st part. Leipzig 1877 (1st ed. 1859), who discusses this question on pp. 38-103, who discusses this question and comes to the conclusion that the assertion that the different types possessed by the various tribes of mankind remain invariably the same is a fallacy, and that only the limits of their variability are open to dispute; If one tries to weigh the power of the factors which exert an influence on the change of the physical type against each other, the view seems to have the most in its favor that the power of mental culture is

XXXVII^Crawford, J., On the Aryan or Indo-Germanic theory. Transactions of the Ethnological Society of London. New series. I. 285.

XXXVIII) Crawford, J., Language as a test of the races of man. Transactions of the Ethnological Society of London. New series. III. 4.

the most important, that of climatic conditions alone the least, while the effectiveness of food and way of life occupies an intermediate position between them. In the case of a conflict between the natural-historical and linguistic points of view, the linguistic point of view deserves preference (pp. 281-284); Diefenbach, L., *Origines Europaeae* 20 und *Vorschule der Völkerkunde und der Bildungsgeschichte*. Frankfurt a. Main 1864. p. 20; Peschei, O., *Völkerkunde*. 4th ed. Leipzig 1877. p. 93; Gerland, G., "Ueber das Verhältnis der Ethnologie zur Anthropologie" in *Verhandlungen des zweiten deutschen Geographentages zu Halle im Jahre 1882*. Berlin 1882. 8. 54-66; pp. 66-67 contain the excellent counter-remarks of H. Weicker; Ranke, J., *Beiträge zur physischen Anthropologie der-Bayern*. Munich 1883, who remarks the following on p. 33 of the first section on the causes of the physical differences of the Aryan peoples: "Racial mixtures alone cannot explain the physical differences which we find, for example, among the German people. On the contrary, we are urged by the experience gained so far, even from the side of craniology, to the opinion that the Aryan tribes at the time of their immigration into Europe bore a more uniform physical character than we perceive in them today, after they have been in their present homes for different lengths of time, but the majority for thousands of years. If we assume that the Aryan race as a whole showed a greater uniformity in the past than it does now, we must also assume that the local conditions under which the peoples have lived for long generations are sufficient to reshape the physical relationships within the boundaries that we now perceive in our race as a whole and in its individual members."

²⁾ For their part, the proponents of Darwinian theory cite these anthropological-linguistic facts as proof of the adaptability of organisms to new living conditions. Thus O. Schmidt remarks

As for the assertion that language possesses greater stability than physical characteristics, no direct proof of its correctness has ever been given. Instead, what has been put forward so far in favor of this view appears on closer inspection to be nothing more than a series of false conclusions from findings which, because they are correct in and of themselves, have also given those conclusions a certain appearance of correctness. It is certainly true that the faculty of speech is an essential distinguishing feature of man from animals; but the faculty of speech is not speech itself, and as such is not a more constant feature of man than any other physiological characteristic of him. It is also quite certainly true that all the languages of the Aryan peoples have a common origin; but these languages themselves are by no means alike, as one would expect according to that theory, but on the contrary are so different from each other that it required the most extensive scholarship and the greatest ingenuity to furnish convincing proof that the two classical languages, German, Russian, the Celtic idioms, Sanskrit, etc., are related languages. To deduce the stability of linguistic characters from the proof that all these languages go back to a common source is basically exactly the same process as if someone wanted to deduce the stability of physical characters from the proof that all the races of the earth have a common origin.

Incidentally, it is worth noting that the Aryan languages in particular show

such great differences from one another, both in terms of pho

(Descendency theory and Darwinism. 2nd vol. of the International Scientific Library. Leipzig 1873. p. 162): "Thus, owing to the different conditions of life, tribes of people diverge widely, which, according to the relationship of their languages, are of one origin, not to speak here of those whose relations have not yet been decided upon by linguistic research. How different is the character of the English from that of the Hindus; somatically and psychologically they represent two excellent sub-races, whose peculiarities are due to adaptation, here to a climate which demands plant food, does not challenge physical and mental energy, favors a dreamy sensuality, there to a country which is in all respects the antithesis of the original Indian homeland." Cf. the remarks on p. 21.

Penka. The origin of the Aryans.

The Semitic languages, on the other hand, which belong together, such as the Semitic languages, are nevertheless the same; if the separation of the individual Semitic peoples took place quite early, they have remained more similar to each other, so that they deserve the name of dialects rather than languages. The same applies to the Turko-Tataric languages. If one considers that, likewise in contrast to the Aryan peoples, the Semitic as well as the Turko-Tartar peoples have preserved a great similarity among themselves in physical respects, the thought does not suggest itself that the physical and linguistic characters are not only not in contrast to each other with regard to their variability, but that, on the contrary, the supposed changes of the physical type and the changes within language are parallel processes, indeed that perhaps the latter processes may be largely conditioned by the former ?

That this assumption is completely justified, I believe I have actually proven in the linguistic sections of my *Origines Ariacae*.

. If, therefore, all that has hitherto been said to prove the assertion that language is more stable than the physical type must be regarded as unsound, it can be proved with certainty for a number of races that they have not changed for many thousands of years in a manner perceptible to us. Both the Old and the New World provide ample evidence of this. The Calaveras skull found in California, the human skeleton found with *Glyptodon* remains from the Pampa de la Plata, the fossil man from Lagoa-Santa in Brazil, all of which belong to the Diluvium, already bear the osteological features of the Indian face of today. The Americans have therefore remained the same from the Diluvian to the present day. That the Semitic, Egyptian and Negro type has not changed for at least 4000-5000 years can be seen from a comparison of the depictions of these types on the ancient Persian, Assyrian-Babylonian and Egyptian monuments with the types of today's Semites, Egyptians and Negroes. The same applies to the inhabitants of Europe. "Wherever we find fossil European skulls," says Kollmann, "they always have European facial features. Even on the smallest of all

Continente, the specific form of the races has long, long been fully developed and all the skulls found in Europe already look like those of Europeans today."

The Iberian (Cro-Magnon) type has remained unchanged from the Stone Age to the present day in the majority of the Spanish and Portuguese, and in some of the French, Welsh and Irish. That the Aryan type still survives today in the Swedes, Norwegians, a very large proportion of the Danes, Scots, English, Dutch, Belgians, Germans and other Aryan peoples has already been noted earlier. But even* the brachycephalic (Turanian) type has not undergone any change since the beginning of the present geological period, when it first appeared in Europe. *)

But in view of such facts, how could the theory of the variability of the physical type be established at all, and not only for the period during which primitive man differentiated himself into the various races, but also for the present geological period, from which we have just as much evidence for the stability of the physical type?

¹⁾ Numerous proofs of the permanence of the physical type have been compiled by Roget de Belloguet in the introduction to his *Ethnogenie gauloise* 1-18, Broca in his excellent treatise on the relationship of linguistics to anthropology (*Bulletins de la Societe d'anthropologie de Paris*. 1^{re} ser. III. 283-286), Farrar, Fr., Fixity of type (*Transactions of the Ethnological Society of London*. New series. III. 394-399) and Kollmann, J. (*Bericht über den Anthropologen-Congress zu Frankfurt a. M.* *Correspondenzblatt der deutschen Gesellschaft für Anthropologie, Ethnologie und Urgeschichte*. 1882. pp. 203-208), *Die Autochthonen Amerikas* (*Zeitschrift für Ethnologie*. XV. 1-47), *Beiträge zu der Rassen-Anatomie der Indianer, Samojesen und Australier* (*Verhandlungen der Naturforschenden Gesellschaft in Basel*. VII. 590), *Die in der Schweiz vorkommenden Schädelformen* (op. cit. VII. 559), *Hohes Alter der Menschenrassen* (*Zeitschrift für Ethnologie*. XVI. 181-212). It deserves to be emphasized that Kollmann, in whom the theory of the stability of the physical type (since the Diluvium) has at present found its most decided exponent, is, in contrast to Broca, who paid homage to polygenistic views, a monogenist and stands on the ground of the descendency theory. Among the Germans, H. von Holder, Fr. Müller, Virchow, Weicker, among the French de Quatrefages, Hamy, Topinard, among the English Barnard Davis, Beddoe, Flower, Rolleston, Thurnam and A.

possess? How is it that the theory of the stability of the physical type, although with its assumption of interbreeding it seemed to have found an explanation of the existing deviations from the original type that met all requirements, has not fully penetrated the theory of variability, even in view of the unsatisfactory attempts made so far to find a corresponding explanation for the alleged change in the physical type that has taken place? Even if we attribute to the Darwinian doctrine, whose adherents are often too inclined to see everything in a constant state of flux, a great influence on the treatment of this question, even if we take into due account the part which, as is well known, national and personal vanity, which always likes to tie in with historically famous names, has always played in the treatment of genealogical questions: It remains remarkable, however, that in the face of the above-mentioned facts, from which the stability of the physical type undoubtedly results, the opposite theory could arise and gain a not insignificant following.

The cause of this phenomenon lies first of all in certain facts of the history of European-Aryan peoples which, because they have not yet been satisfactorily explained by the proponents of the stability theory, seemed to have no other explanation than the assumption that the physical type was subject to change. If one considers that the ancient Gauls and Germanic tribes are described by the old writers as blond, blue-eyed, white-skinned and as people of tall stature, but that today's French for the most part and today's Germans for the most part do not correspond to this description, one further considers that the largest number of skulls found in the prehistoric graves of France and Germany belong to the dolichocephalic (Aryan) type and only to a small extent to the brachycephalic type, that, however, this brachycephalic type is at present the predominant one in a large part of France and Germany, can it be wondered at that the assumption that the physical type of the French and Germans of today was formed by mixing these brachycephalic elements, which have been found in such small numbers, with the Gallo-Germanic elements, which have been found in such large numbers

is, did not consider sufficient to explain the facts and resorted to an assumption which, supported in itself by numerous observations in the field of the evolutionary history of all organisms, seemed to explain the facts in question in the simplest possible way, the assumption of the variability of physical characteristics?

One could object to the justification of this assumption on the grounds that one of the two facts in question is by no means as certain as it appears at first glance. For it is by no means so readily permissible that we should form a picture of the physical constitution of any people during an older period on the basis of the testimony of ancient writers or on the basis of the skulls found in ancient tombs. All too often, characteristics which in fact belong to only one part of the population - albeit the larger one - are attributed to the whole people, especially if the latter consists of two basic elements, of which only one, as the dominant one, offers foreign peoples the opportunity to get to know it better. For France, Switzerland and Germany, it is certain that these countries were inhabited by Anarian peoples (Iberians, Ligurians, Bhaetians) before the Aryan-Gallic and Aryan-Germanic invasions. We have not the slightest reason to assume that these peoples, whose physical type was different from the Aryan type, were completely destroyed by the invading Aryans.¹) On the contrary, we have certain indications for the assumption that they were subjugated and at least partially Aryanized. However, these dark elements were just as little taken into account in the general characterization of the Gauls or Germanic tribes as they are today, for example, in the all-

*) Names such as KeXTlßrjpec and KSXTOXQUK are not only evidence of the Racenverschiedenheit of the "Celts" (Gauls) on the one hand and the Iberians and Ligurians on the other, but they also prove that the subjugated Racen were not destroyed. According to D i o d o r u s S i c., the Celtiberians originated in the same way as most mixed Aryan peoples. He writes in v. 33: OUTOI ydp TO ZaXaidv vrepI TTJC x'P'" dXXiljXotc StazoXep'öavrec, o7 Te Tßigpec xal ol KSXTGI, xal pexd Taura StaXufHvrs; xal T)JV ^ (bpav xotvij xarot- x'oavTE?, STI 5' ^rrrfapfa; r.pö; dXX^Xou; auv&^uEvot, ötd TTJVTaURRJ ; STUXOV zije Kpo^yopfa.

the dark elements present in England should be taken into account in the general characterization of the English. But just as we cannot assume that all Englishmen are blond, neither can we assume that all the inhabitants of Gaul, Helvetia and Germania, even though they may have entered the Aryan linguistic community, showed the physical characteristics commonly attributed by the ancient writers to the ancient Gauls and Germanic peoples. the circle of the Aryan linguistic community, showed the physical characteristics generally attributed by ancient writers to the ancient Gauls and Germanic peoples. ...

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Nor is it permissible to use the skulls found in ancient graves directly and without any further consideration for the purpose of reconstructing the physical type of any people during an earlier period. We must always ask ourselves whether the people in question did not consist of two racial elements, each of which had its own mode of burial, and whether the mode of burial of one element may not have made the preservation of human remains impossible. A comparison of the physical type of the present-day inhabitants of the Russian-Polish lands with the physical type of the prehistoric inhabitants of these lands, as far as we know it from the skull finds to date, shows how cautious we must be in drawing conclusions in this respect.

As is well known, the tombs found in the prehistoric burial sites of the Russian-Polish countries, the skulls found today represent the dolichocephalic (Aryan) type and the brachycephalic type is only represented in very small numbers. Today, the opposite is true in this respect: today's Poles and Ruthenians as well as the neighboring Little and Great Russians are, with very few exceptions, brachycephalic and predominantly of dark complexion. However, it would be quite wrong to conclude from the relatively small number of brachycephalic skulls found in prehistoric graves in the countries mentioned that the brachycephalic element was only present there in very small numbers in prehistoric times and that the large mass of today's brachycephals either goes back to a later immigration or originated from the ancient dolichocephals through transformation. The very fact that history makes no mention of such later immigration, which would have led to a permanent settlement in the western Russian-Polish lands, and that the languages of all Slavic peoples as well as those of the Aryan peoples of Asia (Indians and Iranians), which branched off to the East at an early stage from the homes of the later Slavs,^{XXXIX}) show certain common phonetic changes which are of such a nature that they can only be explained by the assumption that the Aryan phonetic system was subjected to the influence of a strong brachycephalic element for a long time, furthermore the fact that the name Scythian, with which, according to its etymology, could originally only designate the Turanian element ("Chuden"), could be used by the ancient writers to designate

XXXIX') As reported by Stieda according to Russian sources (Archiv für Anthropologie.

XIV. 310 and 813), the people in the governorates of Yaroslav and Tver do not just call the kurgans kurgans or graves, but often pany or panky and also panskija or panowija mogily (i.e. mounds of lords); there is also a village in the governorate of Nizhny-Novgorod whose kurgans are called panowy burgy (i.e. mounds of lords) by the inhabitants of the same village. Incidentally, the fact that the construction of the kurgans required a great deal of work suggests that they were only erected in honor of the ruling class.

both the Anarian and the Aryan element, and finally the entire social-political organization of the Polish state going back to ancient times, an organization that developed everywhere where the Aryan element was based on an Anarian element, where the Aryan element encountered the Anaric element and subjugated it, makes it highly probable that the ancestors of today's brachycephals lived in the Russian-Polish lands in the earliest times together with the dolichocephals and that only the different burial methods are to blame for the fact that no more ancient brachycephalic skulls have been preserved. We can only recognize the burial sites of the dominant element, i.e. the actual Aryans, in the numerous kurgans found there. This is evident from the craniological and archaeological content of the and is furthermore directly confirmed by the tradition of the people^x.¹ ...

However, even if we pay due attention to these factors, uncl and estimate the percentage of brachycephalic elements for the Gallo-Germanic period of France and the Germanic period of Germany to be higher than we seem justified on the basis of the craniological findings alone, we can by no means assume that the actual Aryan element was not more strongly represented in these countries at that time than is currently the case. This is strongly contradicted by the consistent testimonies of the Greco-Roman writers, which, even if they do not justify the assumption that the ancient inhabitants of Gaul and Germania were exclusively blond-haired and blue-eyed, nevertheless allow us to assume that the number of actual Aryans in these countries was much greater at that time than it is today.

The proof that the Aryan race experienced its physical formation in and through the so-called ice age, that is, through the influence of climatic conditions such as have not existed in France and Germany since the beginning of the present geological period, and that its ability to acclimatize is very limited, explains in the simplest way that the Aryan type is no longer as common in these countries as we might expect to find it if it had found there a climate more conducive to its preservation. This also explains why it is more numerous in the north of France and Germany than in the southern and central parts of these countries, and why, among these two countries, colder Germany has more representatives of the blond race than warmer France. Nevertheless, these two countries still have more representatives of this race than the more southerly and easterly countries, whose climatic conditions are even less favorable to the preservation of this race than those of France and Germany.

There is another, no less important factor in explaining the anthropological conditions in Germany. Only some parts of southern Germany have a milder climate than northern Germany, which is explained by the higher altitude of "Upper Germany". What applies to southern Germany also applies to Switzerland and the neighboring Austrian Alpine countries (Salzburg and Tyrol). In these countries, brachycephaly and dark

complexion are more prevalent and this predominance of the dark brachycephalic type can only be partly explained by the difference in climate between southern Germany and Switzerland on the one hand and northern Germany on the other. The proof that Scandinavia is the homeland of the Aryans provides a simple explanation for this fact. The history of all invasions of peoples shows that the former inhabitants of a country, if they are unable to defend themselves against the invasion, retreat and seek protection where they can find it most easily, namely in the mountains. These, on the other hand, have the least incentive for the invading people to take possession of them. Are we to assume that the Aryan occupation of Central Europe was any different? There is not the slightest evidence to support this assumption.

But if we assume that the pre-Aryan element was pushed back into the mountains by the Aryans advancing from the north, we already have the explanation for the phenomenon that it is precisely the Alps where the dark brachycephalic race has always had its headquarters in Central Europe proper. It is this race to which both the ancient Rhaetians and the ancient Ligurians belonged, Anaric peoples (see p. 28), who are by no means extinct, but still live on in their old ancestral homes (southern Germany, where the name of the Bavarian landscape of Ries still reminds us of them; Switzerland, Tyrol, northern Italy, south-eastern France), and indeed with all the less Aryan elements mixed in, the further away their homes are from the Aryan homeland and the greater the difficulties they encounter in the penetration of the Aryan

conquerors.² ■ Apart from this admixture of Aryan blood, it is the language that distinguishes today's descendants of the ancient Rhaetians and Ligurians from their ancestors: Aryan languages, namely Romance idioms in the south and Germanic idioms in the north, have taken the place of Rhaetian and Ligurian. Only in numerous geographical names has Tyrol and Switzerland preserved a few scanty remnants of the Rhaetian once spoken there..

The anthropological conditions as we encounter them in these countries have been given a completely different explanation by j. Ranke. Ranke, whom we have already mentioned above as a representative of the theory of variability. On the basis of the fact that dolichocephaly decreases from the flat north to the mountainous . south, while brachycephaly increases and reaches its peak in the high mountains of Tyrol and Switzerland, and also in view of the fact that the prehistoric graves of old Bavaria contain a far greater number of dolichocephalians than are found among the present old Bavarian population, he has asserted that altitude has a transformative influence on the shape of the

¹) Strabo (p. 292) explicitly notes that the Gallo-Aryan Helvetii and Vindelici inhabit the plateaus in front of the Alps, while the actual Alps are inhabited by the Rhaetians: 'EXowf/rwi xal OutvosXixol oixouatv 6po7cf6ia. 'PatTol 6e xal Nwptxol p^p^t TWV vrpds Tip 'l^aXTav Treptvsiousiv, ol p.ev 'lvaovßpot; GUVÖCZTOVTS;., oi 6S Ktßpvoic'xal TOIC vcepi TTJV'AxuXTpav ^ (oplot?. To be compared with this is p. 206. Not only from the north, but also from the west and south, the Rhaetians and Ligurians were displaced from their former seats by the advancing Gauls ("Celts"). Thus Avienus' Ora maritima (v. 132), edited according to ancient documents, reports on the Ligurians who were pushed into the mountains:

"cespitem Ligurum subit

Cassum incolarum. namque Celtarum manu Crebrisque dudum proeliis
vacuata sunt.Liguresque pulsi, ut saepe fors aliquos agit,

. ,Venere in ista, quae per horrenteis tenent

Plerumque dumos.^

Pliny, III. 20 notes of the Rhaetians: "Rhaetos Tuscorum prolem arbitrantur, a Gallis pulsos duce Rhaeto"; Justinus, XX. 5: "Tusci quoque, duce Rhaeto, avitis sedibus amissis, Alpes occupavere et ex nomine du&is gentes Rhaetorum condiderunt". '

and is capable of transforming a dolichocephalic skull into a brachycephalic one. According to this theory, therefore, we have in today's brachycephalic ancient Bavarians, Tyroleans, Swiss, etc., more less metamorphosed Aryans due to the influence of altitude, and by no means the descendants of the pre-Aryan and Aryan inhabitants of these countries, who differ more or less from the basic brachycephalic type due to the admixture of Aryan blood. inhabitants of these countries. But in order to assume such a connection between brachycephaly and altitude, the external conditions would at least have to permit such an assumption everywhere - apart from all other reservations. However, this condition does not even apply everywhere in the actual Alpine region. Dr. Tappeiner, on the basis of his own measurements in Tyrol, has compiled some cases which alone would be able to shake J. Ranke's assumption. For example, the Truden people living high in the mountains are decidedly less brachycephalic than the Neumark people living almost 3000' below them in the low Adige region. Similarly, the skulls of Laas (2716') in Untervintschgau are less brachycephalic than those of Naturns (1617'), although Laas is 1100' higher than the latter. Similarly, the Algund people (1200') living deep in the valley have much more brachycephalic skulls than the Haflinger people (4068') living high above them. The skulls of Dölsach-Lavant are also more brachycephalic than the skulls of Hopfgarten, although the Hopfgarteners (3432') live 1300' higher than the Dölsachers.)^x

However, this assumption appears completely untenable if we go beyond the borders of Germany and consider the anthropological conditions of the other Aryan countries of Europe. Where we should expect to find brachycephalic skulls, we find dolichocephalic ones and vice versa, proof that the alleged correlation between altitude and skull shape does not exist and a clear indication that the cause of the undeniable phenomenon that brachycephaly is more prevalent in the Central European mountains than in the surrounding plains must be sought elsewhere. The Norwegians are just as dolichocephalic as the Swedes and yet both countries, from

^j) Tappeiner, Fr., Studien zur Anthropologie Tirols und der Sette Comuni. Innsbruck 1883. 8.46.

one of which is mountainous and the other largely flat, have been inhabited by the same race for the same length of time, namely from the Stone Age to the present day. Among the people living on Seeland

There are far more brachycephals among the Danes of Denmark than among the Danes of Jutland, and yet both countries are equally flat. The Czechs, Poles and Russians, like all Slavs in general, are brachycephalic; among them there are quite the same skull shapes as among the South Germans, Tyroleans and Swiss (H. von

Hölder's rhäto-sar-matic type); and yet all three Slavic peoples mentioned live in plains. The fact that the prehistoric inhabitants of the Russian-Polish lands buried in the kurgans were just as predominantly dolichocephalic as the prehistoric Bavarians, whose remains are preserved in the mound and row graves, has already been noted earlier. And yet it is not even remotely possible to imagine that today's predominantly brachycephalic Poles, Little Russians, etc. evolved from the prehistoric dolichocephalians due to the influence of altitude. Similarly, the inhabitants of mostly flat Upper Italy are brachycephalic, while in the more mountainous Central and Lower Italy, brachycephaly and dolichocephaly are quite strongly represented.

But also from another point of view, the assumption of the transforming influence of altitude proves to be untenable. It is well known that dark complexion is one of the characteristic features of the brachycephalic type, and that the majority of brachycephalic people, especially the brachycephalic people of southern Germany, Tyrol and Switzerland, are dark-eyed and dark-haired. Are these characteristics, which distinguish them from their supposed blue-eyed and blond-haired ancestors no less sharply than their brachycephalic skull structure, also due to the effect of altitude? How is it then that in other Aryan mountainous countries, as has been shown earlier, the blond complexion has been preserved predominantly only at high altitudes and has disappeared precisely in the plains, so that Prichard, for example, regarded the blond complexion as the product of altitude precisely because of this fact? None of these questions can be answered satisfactorily by Ranke's theory.

Just as untenable as the assumption that altitude, i.e. a material factor, has a transformative influence on the Aryan type is the frequently expressed opinion that the brachycephalic type is the product of civilization, i.e. that it has arisen through the influence of a more spiritual factor. This opinion is mainly based on the fact that today's Germany, in whose population the dark brachycephalic element is more strongly represented than the blond dolichocephalic element, stands far higher in cultural terms than ancient Germania with its predominantly blond dolichocephalic inhabitants. But this opinion, too, immediately appears to be the product of arbitrary combination, if one compares the cultural relations of the other Aryan peoples of Europe with each other with constant regard to the physical type of each individual people. If the aforementioned assumption were correct, the most brachycephalic peoples would also have to be the most advanced in civilization. However, this assumption does not correspond to the actual conditions, neither when one considers the general level of civilization of those peoples, nor when one considers what impulses and encouragement they have given to the general development of civilization. But even supposing that a more intensive mental activity is really capable of changing the shape and size of the brain and thereby also of bringing about a change in the bony

framework of the skull, no one can assume that this is at the same time the cause that the blond hair, the blue eyes and the white skin have become dark. Finally, it should be noted that this brachycephalic "cultural skull" already appears in Europe in the pre-Neolithic transitional period, a period that must be described as completely uncultured.

From these remarks it can be clearly seen that as soon as the theory of variability steps out of the realm of general considerations and undertakes to treat any concrete ethnological question in its own way, it immediately encounters difficulties which it is in no way able to solve. Only the one-sided linguistic treatment of European ethnology and the easily understandable desire for some explanation of the strange phenomena which it exhibits have given it a greater significance than is otherwise accorded to such theories. If, on the other hand, all difficulties can be solved in a perfectly satisfactory manner from the point of view of the stability theory, then all the assumptions that must be made when applying it, such as the assumption of the presence of Anaric elements in Europe, can also be solved, the assumption of the interchange of their own languages with Aryan languages, and of the extinction of the Aryan type under unfavorable climatic conditions, can in part be directly proved, and in part point to such an abundance of analogous occurrences in the field of the history of peoples, that the admissibility of the same cannot be doubted in the least.

XIII.

The Germanic tribes have not only preserved the Aryan type in its full purity the longest as the last Aryan people to leave the Aryan homeland; they are also, for the very same reason, the ones who have most definitely retained the memory that Scandinavia is their actual homeland. Hence it is that for the Germanic tribes the historical proof of their origin in Scandinavia is the easiest and most certain.

Let us begin with the Germanic people that confronts us as the most powerful at the beginning of the Germanic historical period, the Goths. Jordanes, a Gothic clergyman in Ravenna around the year 550, into whose work the great Gothic history of Cassiodorus was mainly incorporated, expressly describes Scandinavia as the starting point of the migrations of this people: "*Ex hac igitur Scandza insula quasi officina gentium aut certe velut vagina nationum cum rege suo Berig Gothi quondam memorantur egressi.*" Of the testimonies of the other historians of the Middle Ages (the geographer of Ravenna, Freculf, Odo of St. Quentin, Sigebert of Gemblour, Ekkehard, Otto of Freisingen and Roderich of Toledo), which probably all go back to . Jordanes, only the testimony of the geographer of Ravenna may find its place here: "*. . . inter Oceanum procul magna insula antiqua Scythia reperitur. Quam insulam plerique philosophi- historiographi conlaudant; quam et Jordanus sapientissimus cosmogra-*

^Jordanes, *De Getarum sive Gothorum origine et rebus gestis*. Ed. A. Closs. Ed. sec. C. 4.

phus Scan za n appellat. Ex qua insula pariterque gentes occidentales egressae sunt: nam G-ottbos et Danos, imo simul Gepidas, ex ea anti- quitus exisse legimus.^{u x}) These Goths, to whom the splendor of the Gothic name is first attached, are no other Goths than the Fourot of Ptolemy inhabiting southern Scandia, the acre hominum genus of the Gautigoth cited by Jordanes among the Scandian peoples, the Taorot cited by Procopius among the Germanic inhabitants of his island Thule, the Geātas (from *6autas) of Beowulf and the Gautar of Snorre Sturlasson.²) It deserves special mention that, while the emigrated Goths have died out everywhere, the brothers who remained behind in their Scandinavian homeland still live on as a strong people.

Ravennatis anonymi cosmographia. Ed. M. Pinder et G. Parthey. Berolini 1860. I. 12.

²) The Gothi have been portrayed as a people distinct from the Gauti and it has been claimed that Goths never lived in the Scandinavian north, with the exception of the island of Gotland. Jordan's account of the emigration of the Goths from Scandinavia could therefore not possibly be correct. So also, Zeuss only mentions the Gauti among the Scandinavian Germanic peoples, while the Gothi (Wisigothi and Austrogothi), like the Gepids, appear in the south-eastern group of the German eastern peoples. If there were no Gothi on the Scandinavian peninsula and if the Gothi were different from the Gauti, how could Jordanes mention the Ostrogothae as a settled people there? How could it then be called "Gautland eda Gotland" in the *Skáldskaparmál*? How could the Scandinavian island country itself be called Eygotaland (as opposed to Reidgotaland)? How could Adam of Bremen speak of Gothi, Westragothia and Ostragothia on the Scandinavian peninsula? The fact that Gothi and Gauti are one and the same word to designate one and the same people is also taught by linguistic observation. Every Aryan, and therefore every Germanic au, goes back to u and originated from this u by adding an a (so-called first vocal raising). Thus Gaut also goes back to Gut and the original phonetic form of the name has been preserved in the name form handed down by Pliny (Gutones), in GutPiuda, which appears twice in the Gothic calendar, and in the old name of the island of Gotland (Gutland). This u of the tribe Gut was weakened to o, as often happened in Old Norse, and so the usual form of the name Gothi, FdrOot, came into being. On the other hand, the au in ^x Gautas changed to ö (cf. Old Norse höfud Haupt from^x haufu3 with goth. häubiP, ags. heáfod) and so the form Götar came into being. Similarly, the name of the Gothic people of the Greutungi appears in the form of Grauthungi, Grutungi and Grotunni, and yet Zeuss (p. 407) has no doubt that 'these names belong to one and the same people.

The same Jordan also tells us that the Gepids left Scandinavia at the same time as the Goths.¹ That they were a people closely related to the Goths is clear from the words of Jordan (. . . sine dubio ex Gothorum prosapia ducunt originem") as from Procopius: FOTSIXA SÖVTJ iroXXa psv xal aXXa rcporepov - TS ?[V xal Tavov farct, Ta 8s rcavTtov psytaTa TS xal dñioXoY<6TaTa Fot&OI TS stat xal BavötXot xal OöfaytoTÖot xal F^atösc . . . OOTOI airavTsc övopaat psv aXX-

qXcov öta'pspooatv, ukrcsp stp^Tai, aXXcp 6s TÄV rcavTcov oöösvl ötaX- Xaacfooaf Xeoxol ?dp airavTsc Ta awpaTa TS siat xal TÄC xopac favOol, söp.Tfxsic TS xal dyaftol Tas ö'tpste, xal v6pote psv TOIS aÖTOis yptovrat, opotwc 6s Ta s\$ TOV ÖSIV auToic ^axTjTat. T^C yap 'Apsibo OOOTJC stalv airavTss, <pa>yq TS aÖToic £GTI pia, TOT9IX?) XeyopivT], xat pot öoxoov svöc pAv sivat airavTsc TÖ iraXatöv s'Ovoos, ovopaat 6s oaxspov TCOV sxacnotg r^Tjaap^vcov ötaxs- xpfa&at.^{XLXLI}) The fact that Jordan's testimony of the Scandinavian origin of the Gepids is based on truth is also confirmed by Beowulf insofar as it also mentions them as a people settled in Scandinavia.)^{XLII}

The Heruli also had their ancestral seat in Scandinavia. This is again attested to by Jordanes: " . . . Dani . . . Herulos propriis sedibus expulerunt, qui inter omnes Scandzae nationes nomen sibi ob nimiam proceritatem affectant praecipuum."^{XLIII XLIV}) A part of the Heruli returned to these tribal seats in Scandinavia after the complete defeat they had received in their seats on the upper Tisza from the Lombards who had subjugated them.⁶) It is also known that other Germanic tribes (Saxons, Vandals, etc.) secured their share of the land in the event of their return.

The fact that the Skirings, who are most frequently mentioned in connection with Heruls and Rügen, are also of Scandinavian origin is indicated by the fact that Procopius explicitly refers to them as a Gothic people.⁴) The Norwegian landscape Skiringssal (in Snorre Sturlasson's Skiringssalr²) at the outflow of the Lågen into the Skagerack takes its name from them. There can be no doubt that this name is identical with the Sciringesheal mentioned by King Alfred in Ohtheres' travelogue³).

Scandinavia is also to be regarded as the ancestral seat of the Rügen. Jordanes mentions a division of this people, the Ethelrugi, as a people in Scandinavia⁴); they are often mentioned together with Goths and Heruls and are expressly described by Procopius as a Gothic people⁵); and even the older Norwegian history knows Rygir or Rogar in Rogaland⁶) (in today's county of Stavanger), who were probably called Holmrygir in the Scaldic language because they lived partly on islands. The name of the Ulmerugi mentioned by Jordanes, who were expelled from their settlements "ad ripas Oceani" (probably Rügen and Pomerania) by the Goths who came from

XL¹) Jordanes, c. 17.

XL^I) Procopius, Bell. Vandal. I. 2.

XLII²) Beowulf, v. 4984 of the Kemble edition. The ags. Form Gifdas, however, cannot be combined with the usual form of the name Gepidae, Gepedae, Gipedae, but only with the form Gibidi, Gibedi, Gebedi (b instead of p), which occurs exclusively in chron. goth. Ags. f often corresponds to goth. b: ags. seofon, goth. sibun, ahd. sipun, nhd. sieben; ags. grafan, goth. graban, ahd. krapan, nhd. graben. In any case, the transformation of the b to p (Gepidae for Gebidae) originated among non-Germanic peoples.

XLIII) Jordanes, c. 3.

XLIV) Procopius, Bell. Goth. II. 14, 15.

Scandinavia, is probably also identical with the name of these Holmrygir; we can see in them nothing other than a detached branch of the Scandinavian "Inselrugen", who also retained their old name in their new settlements.

The Scandinavian origin of the Warners (Varni, Varini), of whom Tacitus tells us that they worshipped the goddess Nerthus together with the Anglii and other Germanic peoples in a grove on an island "Oceani"⁷) and of whom Procopius says that their seats extend a/pt 'βxsavöv TOV dpxräjov,⁸) can be explained by the name of the landscape mentioned by Saxo Grammaticus, Verendia or

⁷) Procopius, Bell. Goth. I. 1.

²) Snorre Sturlasson, Heimskringla eller Norges kongesagaer. Ed* C. R. Unger. Christiania 1868. p. 38.

³) Alfred, Orosius I. 1, 18.

⁴) Jordanes, c. 3.

⁵) Procopius, Bell. Goth. III. 2: oi S^Poyol ourot eövoc piv etot roTfhxdv.

^c) Snorre Sturlasson, pp. 61, 353, 354, 487 et al.

^j) Tacitus, Germ. 40.

⁸) Procopius, Bell. Goth. IV. 20.

Ponka. The origin of the Aryans.

Verundia,^x) today's Wärendshärad or Wärnsländ in Småland in southern Sweden.

Are the Hilleviones, of whom Pliny says that they inhabit Scandinavia ("insularum) clarissima est Scadinavia inconpertae magnitudinis,. portionem tantum eius quod notum sit Hillevionum gente quingentis incolente pagis, quae alterum orbem terrarum eam appellat"^{XLV XLVI XLVII XLVIII XLIX})), the same people as the Helvecones of Tacitus^l) and the Aikouauovec of Ptolemaeus, *) who lived on the Vistula - and there can be little doubt about this - does it not make sense, in view of the probable meaning of this name (rock dwellers from the old. hella rock, cliff), is it not reasonable to assume that the Hillevions came from Scandinavia to Germany and not the other way round^ from Germany to Scandinavia ? Only if one assumes the former can the origin of the name be understood.

It is known that the famous Cimbri people came from the Cimbrian peninsula

XLV*) Saxo Grammaticus, Historia Danica. Ed. P. E. Müller. Hafniae 1839. I. p. 12, 386, 399, 699, 770.

XLVI) Pliny, Natur, hist. IV. 96 after the text emended by Müllenhoff in his Germania antiqua (Berolini 1883).

XLVII) Tacitus, Germ. 43.

XLVIII) Ptolemy, II. 11, 17.

XLIX) Strabo, p. 293.

L) Ptolemy, II. 11, 12.

named after them. Strabo,^{LI}) Pliny,⁶) Tacitus,^{LII}) Ptolemy⁸) still know their seats on the peninsula. However, it is by no means to be concluded from this that this was their ancestral seat; on the contrary, it is highly probable that they lived in southern Sweden before moving to Jutland. southern Sweden before they moved to Jutland. As Nilsson informs us, people still knew about the Cimbri in Skåne in his time. Before their departure, they are said to have gathered on a large plain, a heath between the Baltic Sea and the villages of Gislöf and Aby, which was called Kimbernmark. The name Cimbrishamn is also said to be a reminder of them.^{LIII}) In addition, Pomponius Mela explicitly states that the Teutons, the Cimbri's equally famous comrades in arms, were still living in Scandinavia in his time: "in illo sinn, quem Codanum diximus, eximia Scadinavia, quam adhuc Teutoni tenent, et ut fecunditate alias ita magnitudine antestat." ^{LIV LV LVI}) And that the Cimbri and Teutones had neighboring residences in their Nordic homeland can be inferred from the following passage in Mela: "in eo (sinu) sunt Cimbri et Teutoni, ultra Ultimi Germaniae Hermiones.*" ²

The Danes also came from the Scandinavian peninsula to the islands they currently inhabit, and from there on to Jutland. Jordanes explicitly states: "Suethidi, cogniti in hac gente reliquis corpore eminentiores, quamvis et Dani ex ipsorum stirpe progressi . . .,"^{LVII}); the same message can also be found in the geographer of Ravenna (see p. 143). The Norse chronicles, too, have King Dan, the mythical representative of the Danish people, starting from Sweden. In the Chron. Erics reg. it says: "Dan, filius Humblae, de Suecia veniens, regnavit super Sialandiam, Monen, Falster et Laland, cuius regnum dicebatur Withesleth.^{44LVIII}) In another chronicle (Annal. Esrom.) it is reported: "fuit in Upsala civitate Suethiae rex quidam Ypper nomine, tres filios habens, quorum unus Nori, alter Oesten, tertius Dan dicebatur. Quem pater suus misit in has partes, quae nunc dicuntur Dacia (= Dania), ad regendum insulas quatuor, scilicet Sialand, Mön, Falster et Laland, quae omnes uno vocabulo nuncupabantur Withesleth. Imperavit enim Ypper hic ab intus habitantibus, ut hanc plagam, scilicet Withesleth, filio suo Dan darent ad sedem regni."^{LIX}) The Danes later occupied Jutland from these four islands. This is attested by another chronicle (Petr. Olai chron. reg. Dan.): "ex ipso loco et multis aliis chronicis Danorum colligitur, non esse verum quod lutia est Dania: sed secundum chronicas Sialandia, Lalandia, Falstria et

LI) Pliny, IV. 96.

LII) Tacitus, Germ. 37.

LIII®) Nilsson, Steinalter 190.

LIV*) Pomponius Mela, Chorographia. Ed. Krick. III. 6, 54.

LV) Pomponius Mela, III. 2, 32.

LVI®) Jordanes, c. 3.

LVII) Langebek, I. 223.

LVIII) Langebek, Scriptores rerum danicarum medii aevi. I. 150.

LIX) Langebek, I. 83.

Meonia est Dania, et illas terras primo et principaliter comprehendit hoc nomen Dania. Dan enim, a quo regnum nomen habuit, multis annis dominabatur istis insulis, antequam acquisivit Iutiam." ⁶⁾ On the other hand, the former Danish southern Sweden (Halland, Blekingen, Skåne) was every

if the Danes, who were advancing southwards from the center of the Scandinavian peninsula, had already occupied the four islands before the occupation.

The history of the Danish migration is also important for the decision of our question, because outside of Scandinavia there is no evidence of Danes anywhere on the continent, neither in ancient nor in modern times. In view of the fact that in all cases where one and the same people can be traced in Germany or in another continental country and at the same time in Scandinavia, and history reports that this people originated in Scandinavia, one was inclined to assume, for the purpose of balancing the historical report with the assumption of the origin of the Aryans from Asia, that a return migration had taken place, this fact deserves special attention.

It is also likely that the Vite-Vithungen and Jute-Juthungen had their origins on the Scandinavian peninsula. Both peoples always appear in close connection with each other, both on the upper Danube, from where they threatened the Roman Empire (Vithungen, Juthungen), and in England, where they had come from Jutland in association with the Angles and Saxons (Viten, Vitae in Bede and other writers, Jutes). If one considers that the Jutes appear in King Alfred under the name Geatas, in Ethelwerd and William of Malmesbury under the name Giothi, Gioti (- Gothi), in Old Norse the name Reiðgotaland - in contrast to Eygotoland, the Scandinavian island country - also occurs for Jutland,¹), the conclusion probably follows automatically, that the Jutes were a tribe closely related to the Goths and, like them, had their ancestral seat on the Scandinavian peninsula, especially as there is every indication that we can recognize the ancestral seat of the Vites in the Vettaland mentioned by Snorre²) (Vetta from Vita durch Brechung) in present-day Bohuslän. From here, the latter are likely to have initially

¹) There is no reason to assume incorrect spellings and erroneous translations, as Zeuss (p. 500, note), who fights the assumption of the Scandinavian origin of the Goths and other Germanic peoples, does.

²) Snorre Sturlasson, p. 266, 769 of the Unger edition.

spread over the four Danish islands of Zealand, Moen, Falster and Laaland - at least this is indicated by the former name of these islands, Withes-leth. It seems to have been the advance of the Danes that caused them to leave these islands and to cross from Jutland to Britain, partly in association with the Angles, Saxons and Jutes, and partly with the latter alone to Germany.

This proof of the Nordic origin of the Vite-Vithungen and Jute-Juthungen is all the more important as it can be used to support the assumption that the peoples known in German history as the Alamanni or Swabians are also of Nordic origin. The Juthungen are expressly described by Ammianus Marcellinus as a part of the Alamanni (Juthungi Alamannorum pars).*) The fact that peoples of demonstrable Scandinavian origin, such as the Lombards and Angles, were expressly referred to by Ptolemy as Sv eben (SotnjBot Aay^oBocpSoi, SoovjBot ^A^ysiXot),^{LX LXI}) as well as the further fact that Tacitus' Suebia actually also includes Scandinavia and its peoples (Suiones, Sithones),^{LXII}) make it appear probable that all other peoples outside of the Juthungen, which were summarized under the names Alamanni and Sveben, were of Scandinavian origin, even if no direct evidence of this origin has survived from later times.

On the other hand, the two peoples in whose company the Vites and the Jutes conquered Britain, the Angles and the Saxons, can provide definite proof of their Scandinavian origins. Anglo-Saxon writers report that the Angles, before they crossed the sea, had their settlements on the Kimbrian peninsula, namely between the Jutes and the Saxons in the landscape of Angul, Angeln, a name that the landscape, which is bordered to the south by the Schlei, to the east by the Baltic Sea and to the north by the Gulf of Flensburg, still bears today. However, we must by no means regard this landscape as the original seat of the Angles, rather we must regard the Scandinavian peninsula as their actual homeland. King Alfred expressly states that the Angles had their seats in Jutland (Gotland) and Zealand (Sillende) and many islands (iglande fela) before they came to Britain. ') But just as the Danes came to Zealand from the middle of the Scandinavian peninsula, we must also assume that the Angles, to whom the legend expressly ascribes a

LX*) Ammianus Marcellinus, XVII. 16.

LXI) Ptolemy, II. 11, 9 and 15.

LXII⁵) Tacitus, Germ. 45 and 46: " . . . Suionibus Sithonum gens conti- nuatur . . .
"Hie Suebiae finis."

common origin with the Danes,^{LXIII LXIV}) emerged from the middle of the Scandinavian peninsula. The origin and the entire content of Beowulf, insofar as it depicts not only the deeds of the main hero but also the friendly and hostile encounters of the former three main peoples of the Scandinavian peninsula, the Swedes, Goths and Danes, can only be understood if we assume that the Angles and Saxons were once very close to these peoples in terms of territory and kinship.^{LXV}) And finally, the Saxon legend shared by Widukind also reports that the Saxons, i.e. the people who have always been closest to the Angles spatially, linguistically and politically, are descended from the Danes and Normans. Widukind writes at the beginning of his Saxon history:

"Et primum quidem de origine statuque gentis pauca expediam, solam pene famam sequentem in hac parte, nimia vetustate omnem fere certitudinem obscurante. Nam super hac re varia opinio est, aliis arbitrantibus de Danis Northmannis que originem duxisse Saxones, aliis autem aestimantibus, ut ipse adolescentulus audivi quendam praedicantem, de Graecis, quia ipsi dicerent, Saxones reliquias fuisse Macedonici exercitus, qui secutus magnum Alexandrum in matura morte ipsius per totum orbem sit dispersus." The fact that the second of the two views deserves no further consideration probably does not need to be explained in detail. Widukind then goes on to note: "Pro certo autem novimus Saxones his regionibus navibus advenisse, et loco primum applicuisse, qui usque hodie nuncupatur Hadolaun."¹) Since Hadolaun is in any case identical with the name of the present-day landscape of Hadeln on the lower Elbe, it is clear that Widukind's testimony about the location of the Saxons' first settlement in Germany corresponds with the information provided by Ptolemy and the Anglo-Saxon writers about their places of residence.^{LXVI LXVII} .

LXIII*) Alfred, Orosius I. 1, 19. That Sillende can only be understood as Seeland has been proved in detail by P. E. Müller in his edition of Saxo Grammaticus (H. 23); the same view is also expressed by the editors of the New English translation of Alfred's works (The whole works of King Alfred the Great. London 1858. IT. 49). The *iglande fela* could also include parts of the Scandinavian peninsula; for a long time, even up to the 16th century, the Scandinavian peninsula was thought to be a union of several islands.

LXIV) Saxo Grammaticus (I. p. 21 of Müller's edition) begins his Danish history with the following words: "Dan et Angul, a quibus Danorum coepit origo, patre Humblo procreati, non solum conditores gentis nostrae, verum etiam rectores fuere."

LXV) The name Angul also appears in Snorre (p. 808 of Unger's edition) in the form of Öngull as the name of a landscape in Hälogaland (in northern Norway), currently Engelfö. There is probably no doubt that both landscapes, the Silesian Angul and the Norwegian Öngull*, were settled by one and the same people, the Angles.

LXVI*) Monumenta Germaniae historica. Scriptores. VI.417. -

LXVII) Ptolemy, II. 11, 11 moves the seats of the Saxons to the entrance of the

A Scandinavian origin is also likely for the Marcomanni. The name literally means "the men living in the Mark (i.e. the borderland)." As certain as this meaning is, it is difficult to explain the origin of this name from the history of the people, insofar as it took place on German soil. From the point of view of this history, it is almost inexplicable why this people, which is first mentioned by Caesar as part of the army commanded by Ariovistus, should have been called a border people. On the other hand, the difficulties are immediately resolved if one assumes that the Marcomanni came from Scandinavia and brought their name with them from there. In fact, there were border areas between Norway and Sweden that were the subject of dispute between the Norwegians and Swedes for a long time, the so-called "Marks" (old Markir, today's Daisland); their inhabitants were called Markamenn in Old Norse.^{LXVIII}) There can be no doubt that the Marcomanni, who lived in

Cimbrian peninsula (dzl TOV die
Anglo-Saxon writers suggest that the seats of the Angles in the south are bordered by the Saxons.

LXVIII⁸) Snorre Sturlasson, p. 807 of the Unger edition.

France and Germany in later times came from these Marches - after all, they are expressly referred to as Northmen¹) -, the assumption based on the similarity of the name that the Marcomanni who appeared in Germany earlier also came from the Scandinavian Marches is probably correct.

In the same way, the Scandinavian origin of the Harudes, who are cited by Caesar together with the Marcomanni and other German tribes as part of the army commanded by Ariovist²), can also be demonstrated. For it is safe to assume that the name Harudes or Charudes is identical with the old name Hör3ar (i.e. *Harudar), the inhabitants of Hör3aland on the Norwegian coast.)³

In the Monum. Ancyrr. the Chariides (= Charudes) appear directly next to the Cimbri, as Ptolemy also mentions them as neighbors of the Cimbri on the Cimbrian peninsula. According to Pliny, the Haruder were also in the Cimbri's course to Italy.

Legend has it that the Franks came from Scandinavia. Nigellus says in his poem de bapt. Haroldi regis of the Danes:

"Nort quoque francisco dicuntur nomine Manni, Veloces, agiles,
armigerique nimis.
quidem populus late pernotus habetur,

1) Zeuss 521 cites the following testimonies: "Tempore quo Normannorum gens universas Gallias devastabat, universani Franciam rex Karolus guber- * nabat. Sed non valebat eis resistere, quin longe lateque fines regni sui deva- starent Marchomanni. Vita 8 Genulphi (scr. p. a. 900), Boll. Jan. 2, 89; litteras, quibus utuntur Marcomanni, quos nos Nordmannos vocamus, infra scriptas habemus. Hraban. Maur, de inv. lieg. ap. Goldast 2,67; basilica nuper est a Marcomannis exusta. Vita S. Medardi (scr. sec. 9.) ap. d'Achery 2, 74; rursus cum ad versus Ruthenenses Marcamanni truces ingruerent, omnemque late provinciam belli nube texissent . . Vita 8 Amantii episc. Ruthen."

2) Caesar, Bell. Gall. I. 51. As the Aeduer Divitiacus informed Caesar, 24,000 Haruder had turned to Ariovist to provide them with residences. To this end, the latter demanded that the Sequans cede the second third of their territory. B. G. I. 31.

3) Snorre Sturlasson mentions the Hördar several times (8. 61, 63, 80 and others of Unger's edition); the Hördaland he also mentions frequently is today's Nordhordland and Söndhordland in Bergen Abbey.

Lintre dapes quaerit, incolitatque mare.

Pülcher adest facie, vultuque statuque decorus, Unde genus Francis adfore, fama refert."¹)

Freculph, Bishop of Lisieux, who lived in the first half of the 9th century, says the following about the origin of the Franks in his Universal Chronicle: "De Phryga namque progenies progressa est, quae per multas regiones vagando cum uxoribus et liberis, eligentes regem ex se Francionem nomine, ex quo Franci vocantur, eo quod fortissimus ipse Francio in bello fuisse fertur. Et dum gentibus cum plurimis pugnassent, in Europam iter suum dirigens inter Rhenum et Danubium consedit. Ibique mortuo Francione, praelia multa gesserunt; quibus attriti parva ex ipsis manus remansit. Hinc duces ex se constituerunt, attamen jugum alterius semper negantes ferre. Haec quidem ita se habere de origine Francorum opinantur."^{LXIX LXX}) Alii vero affirmant eos de Scanzia insula, quae vagina gentium est, exordium habuisse, de qua Gothi et caeterae nationes Theotisca exierunt."^{LXXI}) It goes without saying that only the latter view deserves attention.

The fact that the Burgundians came from Scandinavia is reported in an old vita S. Sigismundi regis, whose author was probably a monk from Agaunum and whose date of composition A. Jahn places in the reign of Theudebert II (596-612)^{LXXII LXXIII}): "Tempore Tiberii senioris Augusti egressa est quaedam gens de insula, quam mare cingit; cui vocabulum est Scandania, qui ex vocabulo quoque regionis Scandinii nuncupati sunt. Cumque alia regna vel regiones cum mulieribus et filiis suis penetrassent, ibi iussione imperatoris Tiberii burgos ultra flumen Rhenum per multorum spatia annorum custodire coacti sunt. Unde et Burgundiones nuncupati sunt et usque hodie Burgundiones vocantur."^b) This news is confirmed by the fact that the name Borgund really does occur in Scandinavia. Axel Wirson reports: "In Westrogothia mons est Borgunda et paroecia Borgunda." In the Norwegian county of Nordre-Bergenhus, on Leerdals-Elf, there is a fishing village that bears the name Borgund, which was also given to a parish consisting mostly of islands.^x) In any case, this place is identical to the Borgund mentioned by Snorre.^a) The names

LXIX¹) Langebek, I. 400.

LXX) With reference to this tale of the origin of the Franks from Phrygia, it should be noted that the legend of their Asiatic-Trojan origin was widespread throughout the Middle Ages. Cf. W. Grimm, Über die Sage von der trojanischen Abkunft der Franken. Smaller writings. I. 204-211.

LXXI) Migne, Patrologiae cursus completus. CVI. 967.

LXXII) Jahn, Alb., Die Geschichte der Burgundionen und Burgundiens. Halle 1874. I. 3.

LXXIII) Acta Sanctorum Maji, I. 86.

Burgendas, Burgendaland, which Alfred from Wulfstan's travelogue mentions for today's Bornholm, as well as the native name of this island Borgundar hölmr, also make it likely that the original seats of the Burgundians were located in Scandinavia.)³

The Scandinavian origin of the Lombards is attested several times. Thus in the short *Origo gentis Langobardorum*: "Incipit origo gentis nostrae Langobardorum, quae egressa est ab insula/quae dicitur Scandan, quod interpretatur in partibus Aquilonis, ubi multae gentes habitant etc.". ⁴) The same message can be found in the history of the Lombards by Paulus Diaconus, who, like the author of the *Origo*, was a Lombard (born around the year 720): "Igitur egressi de Scandinavia Winnili, cum Ibor et Aione ducibus, in regionem quae adpellatur Scoringa venientes, per annos illic aliquos consederunt." ⁵) There, as Paul goes on to say, they came into conflict with the Vandals, who, a people proud of their victory, wanted to make them pay tribute; the Lombards (= Vinnili) emerged victorious from the battle that finally ensued. A famine caused them to leave Scoringa and emigrate to Mauring. *) The later writers (Prosper of Aquitaine, Fredegar, Aimoin, Sigibert of Gemblours, Ekkehard, Otto of Freisingen), who also report that the Lombards came from Scandinavia, cannot be considered as sources, because they obviously only borrowed this information from St. Paul. Only the relevant passage in the *Chronicle of Prosper of Aquitaine* (a. 379) may find its place here: "Longobardi ex extremis Germaniae finibus, Oceanique protinus litore, Scandiaque insula, magna multitudine egressi, et novarum sedium avidi, Iborea et Aione ducibus, Vandalos primum vicerunt." ²)

The passage in question in the *Chronicon gothanum*, a historical source written under Charlemagne and which appears to be independent of Paul, deserves all the more attention. It has been handed down in a somewhat corrupted state and reads: "Vindilicus dicitur amnis ab extremis Galliae finibus; iuxta eundem fluvium in primis habitatio et proprietas eorum fuit. Primis Vinili proprio nomine seu et parentela; nam, ut asserit Hieronymus, postea ad vulgorum vocem Langobardi nomen mutati sunt pro eo, quod barba prolixa et numquam tona. Hic supra dictus ligurius fluvius, Albiae fluvii canalis inundans, et nomen finitur. Postquam de eadem ripa, ut supra dictum est, Langobardi exierunt, sic Scatenaugae Albiae fluvii ripa primis novam habitationem posuerunt." ³) It should first be noted that under the supra dictus ligurius fluvius no other river than

can be understood as the Vindelicus amnis mentioned earlier. It is also certain that there must be some kind of connection between this Vindelicus amnis and the Albia. This is indicated by the expression *Albiae fluvii cannalis* (= it) *inundans* as well as the expression *nomen finitur*, which can only be understood as meaning that the Vindelic river as such does not cease, but loses its name as soon as it has poured its waters into the rivulets of the Elbe river. It should also be noted that the Elbe River is explicitly referred to as a river of the Scandinavian peninsula (*Scatenaugo*). If we now consider that the Götha-Elf coming from the Wenern really had the name Albia or Elbis and that the Klar-Elf and the Götha-Elf pouring into the Wenern can be regarded as one river and were indeed regarded as such. The fact that the Vindelicus amnis is usually fed by the tributaries of the Clear Elf of the Weners, which in turn finds its outflow in the Götha Elf, but that these two rivers have generally always been distinguished from each other by name,¹) can it be doubtful that the Vindelicus amnis refers to the Clear Elf and the Albia to the Götha Elf? This view is also confirmed by Paul's account in that he mentions *Scoringa* as the landscape to which the Lombards first came. This *Scoringa*, which Müllenhoff interprets as "*Ufergau*" (cf. shore), is probably no other landscape than the Scarane landscape mentioned by Adam of Bremen, whose location he defines as follows: "*Westragothia confinis est provinciae Danorum, quae Sconia dicitur. A qua etiam fertur diebus septem perveniri usque ad civitatem Gothorum magnam Scarane.*"²) This provision forces us to place the situation of Scarane in the vicinity of the Götha elf. We must therefore

*) Adam of Bremen summarizes both rivers under one name. He writes (*Descriptio insularum aquilonis* 21. *Mon. Germ. hist. Scr. VII.* 376): "(Albis fluvius) oritur in praedictis alpihus (Ripheis), perque medios Gothorum populos currit in Oceanum, unde et Gothelba dicitur." However, his scholiast refers the latter name only to the Götha elf: "*Gothelba fluvius a Nordmannis Gothiam separat, magnitudine non impar isti Albiae Saxonum, unde ille nomen sortitur.*" -

²) M. Adamus, *Descriptio insularum aquilonis* 23. Lappenberg recalls today's Skara and Skaraborg in West Gothland.

the shore areas of the Klar-Elf are regarded as the original seats of the Vinnili-Langobardi. ¹⁾

Since there can be no doubt that the name Vinnili goes back to Vindili and the latter to Vandili, Pliny's passage containing the general classification of the Germanic peoples can also be used to further substantiate this hypothesis, insofar as it unites the Burgundians and Goths, i.e. peoples whose homeland has previously been proven to be the Scandinavian peninsula, into one tribe with the name Vandili. ²⁾

The only difficulty that arises with this interpretation of the passages quoted from Paul and Chron. goth. is that, according to the strict wording of Paul's 7th chapter, the landscape of Scoringa would have to be sought outside the Scandinavian peninsula. On this point, however, we can all the more safely assume an error on Paul's part, as we also have other reliable evidence for the assumption that the Lombards repeatedly changed their residences on the Scandinavian peninsula before their arrival in Germany. As Paul reports, they moved from Scoringa to Muringa. This landscape can also be traced on the Scandinavian peninsula: it is the same landscape as the Meore mentioned by King Alfred in Ohtheres' travelogue alongside Blekingen, ³⁾) the Moringia of Saxo Gram., ⁴⁾) the present-day districts of

¹⁾ For linguistic and factual reasons, Munch's conjecture (Die nordisch-germanischen Völker 49), which identifies the atnnis Vindelicus with the Kattegat or with the Liimfjord, must be rejected. The same applies to the supposition of Fr. Bluhme (Die gens Langobardorum und ihre Herkunft. I. Heft. Bonn 1868. p. 10) and R. Wiese (Die älteste Geschichte der Langobarden. Jena 1877. p. 10), both of which place the original seat of the Lombards at the extreme northern tip of Jutland (above the Liimfjord) and understand the Liimfjord under the amnis Vindelicus, the German Elbe under the Albia and the arm of the sea formed by the west coast of Jutland and the present islands and Halligen under the canalis Albiae fluvii.

Pliny, IV. 49: "Germanorum genera quinque: Vandili, quorum pars Burgundiones varinne Charini, Gutones. Alterum genus etc." Müllenhoff, Germ, ant. 93.

²⁾ Alfred, Orosius I. 1, 20.

⁴⁾ Saxo Grammaticus (I. p. 419 of Müller's edition) says of the exodus of the Lombards: "Primum itaque Blekingiam advecti, ac deinde Södra-Möre and Norra-Möre in Smaland. The Danish song in the Kämpe viser "Der boede en konning i Danmark u. s. w." ^A also has the Lombards moving first to Hailand, then to Blekingen, boarding the ships in Cimbrishamn and then coming to Gutland and later to Ryland as a result of a famine under King Sino on the advice of Gambaruk and under the leadership of Ebbe and Aaghe. In the even older Gotlandic song "Ebbe oc Aaghe de hellede fro u. s. w." it is also said that Ebbe, a Vendel- boer, and Aaghe, a Godinger, but both sons of one mother, were driven out of Skåne by

a famine; they and those who went with them now called themselves Vinniländer.

^x) There can be no doubt that the Gutland of the Danish song is identical with Paul's Golanda and the Ryland of the same song with the variant of Paul's Golanda (Rugolanda, Rogolanda). On the other hand, this Golanda-Rugolanda, to which country the Lombards came after their departure from Mauringa, cannot mean any other country than the Gothiscandza mentioned by Jordanes, which is neighboring the seats of the Ulmerugi and in which the Goths had first landed after their departure from Scandinavia.)²

Scandinavia can also be shown to be the original seat of the Vandals. The name of the northernmost part of Jutland (Vendsyssel), which is still in use today and which appears in Snorre under the name Vendill and for which the name Wendila appears in Adam of Bremen and the name Wendala or Wendila in Saxo Gramm, indicates that the Vandals must have once lived there; however, it does not follow from this that this part of Jutland is to be regarded as the original seat of the Vandals. Rather, it is clear from Paul's account of the battles of the

Moringiam praeternavigantes, ad Gutlandiam appulerunt, ubi, et Paulo teste, auctore Frigida, Longobardorum vocabulum, quorum postea gentem condiderunt, traduntur adepti. Tandem ad Rugiam se applicantes, desertisque navigiis solidum iter ingressi, cum multam terrarum partem emersi armisque depopulati essent. .

¹) Cf. Bethmann in Archiv der Gesellschaft für ältere deutsche Geschichtskunde. X. (1851), p. 336. It seems that the author of the Danish folk song, even though he used Saxo Gramm, also incorporated actual folk traditions into his song. Bethmann also had no doubt about the age and ancient character of the Gothic song.

²) Jordanes, c. 4.

Lombards and Vandals after the arrival of the former in the Scoringa landscape on the Scandinavian peninsula, from the fact that Procopius expressly declares the Vandals to be a Gothic people who spoke the same language as the Goths,^x) just as Pliny summarizes the Goths and Burgundians into one tribe of the Vandili, furthermore from the fact that a Wendl prince (Wulfgar) is also mentioned in Beowulf and that it is generally more likely that among these Wendls of Wulfgär there were Vandals. The fact that a Wendish prince (Wulfgar) is also mentioned in Beowulf, and the general probability rather suggests that these Wendish princes of Wulfgär refer to Vandals on the Scandinavian peninsula rather than those in Jutland^{LXXIV LXXV}), leads to the conclusion that the original seats of the Vandals must be sought on the Scandinavian peninsula, probably south of the Scoringa landscape, approximately in present-day Halland.^{LXXVI}) From here they may have

LXXIV¹) Procopius, Bell. Vand. I. 2; Bell. Goth. IV. 5.

LXXV) Beowulf, v. 694 of the Kemble edition.

LXXVI) The mare Wendile probably received its name from these Vandals and not

first crossed the Kattegat and settled in the northern part of Jutland. The chronicler Ekkehard, probably on the basis of older evidence, also describes the Vandals as emigrating from the "Scauzia insula".)^{LXXVII}

What lends the above-mentioned legends about the origin of the Germanic tribes from Scandinavia a special evidential force is the fact that the various forms under which the name Scandinavia appears in the different writers (Scandia, Scandinavia, Scadinavia, Scandania, Scandanan, Scatenaug, Schatanaria, etc.), as well as the different ways in which the legends are told by the writers of each nation, prove the independent origin of each of these legends. In addition, there is not a single valid reason that could lead us to doubt the credibility of these legends, most of which were handed down by writers of their own nation. What reason would the Germanic peoples have had to refer to Scandinavia, which at that time was still unenviable, as their homeland? The tribal legends invented by the scholars of the Middle Ages are correct.

from those of Jutland. The Scholiast to Adam of Bremen writes (Mon. Germ. hist. Scr. VII. 369): "Promuntorium Skagen inter Oceanum et Wendile mare respicit contra insulas aequinoctiales."

LXXVII) Monumenta Germaniae historica. Scriptores. VIII. 124,

all agree on one point, namely that they follow the clear tendency to link the beginnings of a people to the name of a famous people of antiquity: thus the Saxons were supposed to be the descendants of the Macedonian army, the Franks the descendants of the Trojans, the Burgundians the descendants of the B rner. E. M. Arndt aptly remarks on these historical falsifications of the Middle Ages in his pithy manner: "The Frankish legend, like the legend of almost all Germanic tribes, has them and the Saxons, their closest north-eastern neighbors, coming from the north; the Fabians trace their royal lineage back to Troy and Priam's tribe. Follies like the last one were not only born in the fabulous Middle Ages, but now and then even in more recent times. If one can only give a thing or a people quite deep and ancient roots, and if these roots sprouted from the devil and his grandmother, then the mold and gloom of the millennia, however bad the origin, still shimmers and shines. Apart from the Germanic legends, which the Middle Ages did not want to know and could not interpret, and which did not gain prestige and sanctity through any school, only the Greeks and B rner remained, from which one tried to pluck the old fame of the generations. From the stories of the Hebrews one could have done it at best, because they had the oldest nobility, especially the names Cohen and Levi; but the Jews did not wear caps of honor at that time." ^{x)})

The accusation that Arndt makes of the Middle Ages, that they did not want to know and could not interpret the national legends about the origins of the German tribes, also applies in part to modern times. Cluver, the first modern scholar who attempted to unite the information of the ancient writers on the prehistory of Germania into a comprehensive picture, the author of the famous *Germania antiqua*, is the one who sharply opposed the view, based on the testimonies of Paulus Diaconus and Jordanes, that the Lombards and Goths as well as the other Germanic peoples came from Scandinavia. "*De Langobardis mira fabulantur medii saeculi scriptores, Prosper, Diaconus, Sigebertus et alii, quasi antea in Scandinavia oceani insula*

^{y)} Arndt, E. M., *Versuch in vergleichender V lkergeschichte*. 2nd ed. Leipzig 1844. 8. 195.

Winili dicti fuerint; pōstquam vero sub tempora Theodosii imperatoris in continentim Germaniae trajecerunt, Langobardorum nomen sortiti. Quae quarp probe cum veritate congruant, cuius dispicere promissum est, si quid em longe ante Theodosii tempora Langobardorum meminit EJJolemaeus, ut supra ostensum, et ante Ptolemaeum Tacitus, item ante hunc C circiter annis Strabo ac Paterculus, qui omnes in ea sede eos collocant, quam modo circumscripsi. Verum commune hoc esse video omnibus istius saeculi scriptoribus, genteis sibi ignotas ab ultimo usque septemtrione deducere mirificasque circa ♦ migrationes earum effingere fabulas, quarum Diaconi de Langobardis et Jornandis de Gothis libri sunt pleni. Nostri saeculi homines usque eo huius modi nugamenta delirantiumque somnia probarunt, uti ad eorum exemplum et ipsi Alemannos, Francos atque Saxones indidem deducere haud dubitaverint. Sed horum ineptiae satis supra confutatae sunt. Prosperum ac Diaconum de Langobardis temporum ratio mendacii seu fabulositatis arguit. De Gothis suo loco post videbimus." This is then also done with the following words: "Sed ea res uti plana redatur, fabulae Jornandis, quibus contaminavit potius quam illustravit gentem eam, detegendae sunt. Quamquam non Jornandis demum haec puto fuisse figmenta, sed Ablavii et Dexippi, qui ante ipsum Gothorum res gestas scripto mandarunt, quos ipse citat. His igitur haud dubie auctoribus originem gentis Jornandes ante Herculeae tempora deducere conatur ex insula septemtrionis, ut putabatur, Scanzia, quam ob id ipsum vaginam vocat nationum et officinam gentium. Qua in re egregium se praebuit ineptissimarum nugarum etiam posterioribus hominibus ducem, primum Paulo Diacono, ut is ex eadem regione suos quam falsissime originaretur Langobardos, deinde nostri saeculi scriptoribus, qui indidem Alemannos, Francos, Saxones atque

- alios protraxerunt." LXXVIII LXXIX)

This sharp rebuttal by Cluver was met with an equally sharp rebuttal and refutation by the famous Hugo Grotius, who, in the substantial introduction to his History of the Goths, Vandals and Lombards, begins it with the following words: "A domestica antiquitate ac magnitudine antequam ad res externas me

LXXVIII*) Cluverus, Philippus, Germaniae antiquae libri tres. Lugduni Batavorum 1616. III. 103.

LXXIX) Cluverus, l. c. III. 132.

Penka. The origin of the Aryans.

transferam, iterum ad certamen me vocat intrepidus ille omnium, quae ipsi collibita sunt, asseverator et sub antiquae Germaniae titulo novator maximus, ut qui Gotbos, Vandalos, Langobardos contra manifestum consensum indigenarum externorumque, contra validiora etiam rerum quam hominum testimonia neget in Scandzia fuisse. Haec somnia (neque enim video quo illo iustiore vocabulo appellem) ut difflem, partite procedam initiumque a Gothis multas ob causas nobilissimas faciam." ^{x)} The refutation that now follows also makes Cluver's suspicions of the credibility of Jordanes and Paul appear completely unfounded. Incidentally, Grotius is also of the opinion that not only the Goths, Vandals and Lombards, but also all other Germanic tribes are of Scandinavian origin.)^{LXXX}
LXXXI LXXXII

An equally fierce opponent of Cluver's views on the origin of the Germanic tribes was Olaf Rudbeck the Elder, a polyhistor of the 17th century who stood out for his comprehensive scholarship and great acumen. He not only refuted the older view that Scandinavia was the homeland of the Germanic peoples, but also went far beyond it by proving that Scandinavia was the homeland of all "Japbetite" peoples. Even if he went decidedly too far in this, many of his historical and linguistic arguments must be described as incorrect from today's scientific point of view, and in particular his view that the entire ancient culture originated in Scandinavia was decidedly wrong: it cannot be denied that Rudbeck correctly related a number of passages in the Greek and Roman writers to the Scandinavian peninsula, which he considered identical with Plato's Atlantis, and thereby made many an estimable contribution to the correct view of the prehistoric movements of peoples. It must also be recognized that he not only used literary evidence to prove his theories, but that he also appropriately appreciated the anthropological facts and used them for his purposes. ^{x)} Despite all this, the opposition to the credibility of Jordanes and the view of the origin of the Goths from Scandinavia based on his testimony did not fall silent. The spirit of Cluver continued to work.

LXXX') Grotius Hugo, *Historia Gothorum, Vandalorum et Langobardorum*. Arnstelodami 1655. prolegomeua 13.

LXXXI) Grotius, I. c. 22.

LXXXII) Rudbeckius, Olaus, *Atlantica sive Manheim*. Upsalae 1677-1702. The complete Latin title of the first volume of this remarkable work, published in four volumes, written in Swedish and Latin, is: "Olavi Rudbeckii Atlantica sive Manheim vera Japheti posterorum sedes ac patria, ex qua non tantum monarchae et reges ad totum fere orbem reliquum regendum ac domandum stirpesque suas in eo condendas, sed etiam Scythae, Barbari, Asae, Gigantes, Gotlii, Phryges, Trojani, Amazones, Thraces, Libyes, Mauri, Tusci, Galli, Cimbri, Cimmerici, Saxones, Germani, Suevi, Longobardi, Vandali, Heruli, Gepidae, Teutones, Angli, Pictones, Dani, Sicambri alique virtute clari et celebres populi olim exierunt."

And so we again find a decided representative of his views in Adelung, the most important representative of German antiquity studies in the pre-Grimmian period. From his remarks we again see clearly how all eloquence cannot succeed in overcoming Jordanes and his testimony. When asked to which tribe the Scandinavian people of the Sveons (the Suiones of Tacitus) belonged, whether to the Sveven or Un-Sveven, he replies: "We learn nothing about them from the Greek and Roman writers, but if we ask Jordanes, a credulous and uncritical historian of the 6th century, it must be Sveven, because for him Scandinavia is the great vagina gentium, from which the Goths, Lombards and all other Sveven peoples emigrated and from here poured out over the rest of Europe, and all older and newer historians follow him in this without hesitation. That the Scandinavians in the older times should not have emigrated as frequently as other Germanic and non-Germanic peoples, and perhaps the more frequently, the more the cold inhospitable sky had to invite them to do so, suffers no doubt; but since history has left us no such emigration, it is contrary to the truth and dignity of the historian to assume such arbitrarily. If, as is very likely, Pytheas Ostionen and Kossiner are the Aestians and Goths, then they were already living on the Vistula over 800 years before Jornandes Sveven and they certainly did not just move there then. So how can he be a valid witness to things that happened so long before him? He has pieced together the older part of his story from folk songs and we already know that the purpose here is only the miraculous, but not the true, even if we could know it. There is, however, one circumstance that may have misled the ignorant Goths and may, to a certain extent, serve as an excuse. As long as the geographical knowledge of the Greeks and Romans did not extend to the coasts of the North and Baltic Seas, these were the farthest north for them and peoples who came from these coasts came from the farthest north. When the Scandinavian islands were subsequently mentioned, the ancient events were moved further north because they were now the far north. This is what the Greeks did with the Hyperboreans and the Rhiphaean mountains, and this is what Jordanes and other historians similar to him did with the northern peoples."

Bopp's proof that the majority of European and some Asian languages have a common origin, as well as the generally accepted assumption that the bearers of these languages, the Aryan peoples, immigrated to Europe from Asia, was even less likely to give rise to a correct understanding of the Germanic genealogies. In fact, we also find that the most renowned representatives of German historical and antiquity research (Zeuss, J. Grimm, Wietersheim and others) relegated both the Gothic genealogy told by Jordanes and the Longobard genealogy told by Paul to

the realm of fables.^{LXXXIII LXXXIV}) How difficult it really is to reconcile the conventional view of the origin of the Aryans from Asia with the assumption of the origin of the Germanic peoples from Scandinavia, as suggested by the Germanic genealogies alone, is best taught by a closer examination of the views put forward by Munch on this question. Although for the Norwegian historian it is certain on the basis of the Germanic tribal legends that the Germanic tribes came from Scandinavia, he does not regard Scandinavia but central Russia as the actual homeland of the Germanic tribes: from central Russia they would have migrated across the Baltic Sea to Scandinavia in remote antiquity, at least more than 300-400 years BC, and from Scandinavia they would then have spread further across central and southern Europe.²) But how can we believe that the Germanic peoples, who had advanced victoriously from Scandinavia to the most powerful states in Europe, would have taken the arduous sea route across the Baltic Sea from central Russia and chosen Scandinavia as the destination of their migrations, when the less arduous land route to the wide and fertile plains of Poland and Germany would have been open to them? If individual Germanic peoples dared to conquer new settlements in these countries from Scandinavia, why should the Germanic masses as a whole not have dared to do the same? And how could it be explained that they disappeared without a trace in their supposedly older homeland? The Germanic and Aryan elements found in Russia can certainly be traced back to Scandinavia and Germany on the basis of archaeological, historical and linguistic evidence. Not a single piece of reliable evidence can be produced in the opposite direction. In addition, according to this theory, as Munch actually did, we would have to assign the pre-Germanic inhabitants of Scandinavia in the Bronze and Stone Ages, who were also of Aryan origin, to another Aryan group. Munch considers the inhabitants of Scandinavia in the Bronze Age to be immigrant Celts. However, the fact that nothing can be said in favor of this assumption, but that all considerations speak against it, has already been discussed

LXXXIII¹) Zeuss 402 described both the Gothic and the Lombard tribal legend as "undoubtedly false"; J. Grimm (*Geschichte der deutschen Sprache*. I. 169) denies that the Goths came from Scandinavia, "although the legend suggested it"; Wietersheim-Dahn (*Geschichte der Völkerwanderung*. 2nd ed. Leipzig 1880. I. 145), the latter of whom doubts the identity of the Goths with the Gauts in Scandinavia, note that in any case the original migration must have taken place from the south coast of the Baltic Sea, i.e. from Germania to Scandinavia. Dahn tries to explain the origin of the Gothic tribal legend by assuming that Scanzia not only referred to Scandinavia, but also to the southern coast of the Baltic Sea, which was regarded as an island or peninsula. Müllenhoff (*Deutsche Alterthumskunde*. V. LXXXIV Berlin 1883. p. 1) considers the area of the Oder and the Elbe below the mountains to be the oldest and actual homeland "of the Germanic tribes, in which they had grown into a "gens tantum sui similis".

²) Munch, *Die nordisch-germanischen Völker* 61.

above, and the groundlessness of Munch's assumption that the inhabitants of Scandinavia in the Stone Age were Lapps and Finns has already been explained earlier.

The treatment of the Germanic tribal sagas entered a new phase when historical anthropology tackled the question of the homeland of the Germanic tribes. The evidence, the credibility of which had previously been denied, suddenly proved to be completely correct and a welcome confirmation of the results that craniological research had arrived at. Ecker, for example, proved that the ancestral homes of the Franks, which emerge from natural history research, are also those to which the historical evidence (Beowulf, the geographer of Ravenna) points, namely the shores of the Baltic and North Seas. He found the same agreement for the Alemanni. "A comparison of the description and measurements of Swedish skulls given here with those given above (p. 77) of the skulls from the burial mounds, as well as a comparative look at Pl. XXXVII, Fig. 1, 12 on the one hand and Pl. VII, VIII, X, XXXVI, XXXVII, 1-8 on the other, clearly shows that the two belong to one and the same type of skull. It will therefore be justified to draw the conclusion, partly from the historical evidence provided above about the ancient residences of the Franks on the North and Baltic Seas, and partly from the evidence given above of the complete correspondence between the ancient Franconian skull and the modern Swedish skull, that these two tribes of peoples mentioned belong to the same type of skull, that these two tribes are parts of one and the same great people, one of which has remained in its old homes and has remained more or less unmixed, while the other, having set out for new homes, has dispersed and gradually changed through mixing and interbreeding with other tribes. As far as the other physical characteristics of the Franks are concerned, we must assume that they, blond and blue-eyed, represented the genuine Germanic type, and this is also confirmed by direct evidence. So much for the Franks. As far as the Alemanni are concerned, the examination of the row graves in areas inhabited by them (Breisgau, Black Forest, Swabia) has shown that the predominant skull shape in these is quite the same as in the Frankish row graves. Franks and Alemanni were therefore physically one and the same people. It is also consistent with this that the ancient homes of the Alemanni were also located on the North and Baltic Seas and that they only moved south and west over time. We find the news about this collected in Zeuss in particular. We learn from these that the Suabi (Swabians), Ziuvari, Juthungi, Teutonoäroi, Rudigni, are one and the same Low German people, the western Teutons, who left their northern seats as early as the first half of the third century and first appeared in the Danube regions alongside the Quads around the year 230. According to Ammianus, however, the Juthungen are part of the Alemanni. This name disappears around the year 430

and in its place the people call themselves again by the old famous tribal name and from then on remain closely connected with the Alemanni as Suevi, Svavi." ²⁾

A very decisive condemnation of the previous rejection of the historical evidence by those who, on the basis of one-sided linguistic considerations, have imported the western peoples of Europe from Asia.

¹⁾ Ecker, *Crania Germaniae meridionalis occidentalis* 91. migrated, Lindenschmit has pronounced. For him, on the contrary, the historical evidence about the direction of the European movements of peoples is a main reason to regard the Asiatic hypothesis as a mistaken one. "The fallacy of this position," he says, "arises, however, from the fact that the assumption of an exclusively westward-directed grand impulse of the movement of peoples compels one to exclude all consideration of the reports of the "movement" of peoples towards the east and to deny them any validity as fallacies of historical tradition. However, these reports of tradition and history are all the less to be eliminated, as the supposed movement of peoples towards the West lacks even the slightest hint of historical and legendary tradition ... On the contrary, all the earliest reports of the movement of European peoples point in an easterly direction. The curious inscription from Karnak tells us of a movement of peoples from the western countries of Italy, Greece and the Mediterranean to Egypt as early as the 14th century BC, where individual foreign tribes from this direction had already settled in the past. The migration of the Celts to the far west is as imaginary as that of the Germanic tribes and Thracians. The only information we have about Celtic migrations points in the direction of Germania, Italy, Thrace and Greece as far as Asia Minor, where Galatian tribes settled and gave their name to a province. Their route was the old traditional route of the western peoples, along which the Phrygians had already crossed over from the European coast and other Thracian tribes had occupied most of the Near Eastern peninsula in the earliest times. A refutation of this fact would have to accuse all Greek and Roman geographers and historians of error and prove that Herodotus, Strabo, Caesar, Livy, Tacitus, Pliny and Mela were reporting from equally unreliable sources." *) He also rejects all doubts regarding the credibility of the Gothic genealogy. "Why the tribal saga of the Gothic peoples of their migration from the East

¹⁾ Lindenschmit, L., *Handbuch der deutschen Alterthumskunde*. I. Theil. Brunswick 1880. 8. 5-7.

The fact that the return of the royal tribe of the Heruli to their ancient seats in the north should be regarded as a "lie of legend" after those on the Pontus euxinus is all the less understandable as it belongs to the realm of history." And just as Lindenschmit, in addition to the historical evidence, was determined by anthropological considerations to reject the hypothesis of the Asiatic origin of the western European peoples, so the significance of the fact that the Germanic skull

shape is still purely preserved in the Scandinavian countries has not escaped him. "If this ancient national skull form could only be preserved in a few regions of our country up to now, it can still be found in its original character in southern and central Sweden, a fact of unmistakable importance for the assessment of the ancient peoples' relationships." LXXXV LXXXVI)

And why should those Nordic movements of peoples, which we are accustomed to summarize under the name of the Norman campaigns and about whose course and causes we have very precise knowledge, not have had their precursors earlier ? Why should the exodus of the Cimbri and Teutons from Scandinavia not have been repeated later by other peoples? Or should Scandinavia, which from the Stone Age onwards was inhabited by the most fertile race on earth, not have suffered from overpopulation for a full eight centuries, and should the surplus population only have sought new residences in Norman times? But apart from the fact that overpopulation is expressly stated as the cause of the emigrations in the period before the Norman campaigns²), the Frankish and Norman writers also teach us that the practice followed by the Normans of eliminating the difficulties arising from overpopulation was by no means a new one, but merely a repetition of what had been practiced since time immemorial. This practice consisted in the fact that, when the country was overpopulated, a whole number of young men, determined by fate, were forced to leave their fatherland and conquer new residences. Thus Dudo (c. 990) says: "Exuberantes atque terram, quam incolunt, habitare non sufficientes, collecta sorte multitudine pubescentium, veterrimo ritu in externa regna extruduntur nationum, ut adquirant sibi proe liando regna, quibus vivere possint pace perpetua."^w An older writer (c. 940) adds that these expulsions took place every 5th year: "Quoniam Danorum tellus insufficiens est, moris est apud illos, ut per singula lustra multitudo non minima, dictitante sortis eventu, a terra sua exulat et in alienis terris mansio- nem sibi quoquo modo ad propria non reversura vindicet."⁴⁴ William of Jümieges also mentions a law according to which the father drove out all his adult sons so that they might try their luck as best they could, leaving only one as his heir. LXXXVIII LXXXVIII)

LXXXV') Linden sch m i t, op. cit. p. 139.

LXXXVI) Thus says Paulus, *Historia Langobardorum* 1. 2: "Intra hanc (Scandinaviam) ergo constituti populi dum in tantam multitudinem pullulassent, ut iam simul habitare non valerent, in tres, ut fertur, omnem catervam partes dividentes, quae ex Illis pars patriam relinquere novasque deberet sedes exquirere, sorte perquirunt." And so the exodus of the Lombards from Scandinavia was also a consequence of overpopulation and the usual process was also observed in this case.

LXXXVII') Munch, op. cit. 173, note; Gejer, *Geschichte Schwedens*. I. 12.

LXXXVIII) Strabo, p. 292: . . . ort ^epprfwjsoy oZZOOVTE;

Basically, emigration from Scandinavia has never stopped and continues to this day. The only difference between the current emigrations and those of the past is that they are no longer undertaken collectively and their destination is no longer the countries of Central and Southern Europe. They have been replaced by the territories of the New World.

However, it was not only overpopulation that is cited as the cause of the emigration of Germanic tribes. It is said of the Cimbri that they were forced to leave their homeland by a sea collapse.²) As is well known, Strabo doubted the credibility of this news. However, the doubts that he raised against it were just as unjustified as his doubts about the credibility of the information provided by Pytheas of Massilia; rather, they only testify to the fact that such phenomena had not been observed in the areas known to Strabo. We now know with

3ΕΙΕV T<ÜV Tdüiov; Festus, s. v. Ambrones: ". . . subita inundatio maris;" Florus, III. 3:n . . . cum terras eorum inundasset oceanus."

It is certain that the coast of northern Scandinavia and Finland has been rising since the earliest times, but that the coast of southern Scandinavia, northern Germany and Holland is sinking. It is known that part of Holland is already below the level of the sea and that the sea is only held back by artificial structures. Just as the area of the Zuidersee was only covered by the tides in the 13th century, the Dollart, the Jade Bay and other bays of the North and Baltic Seas were only created in historical times as a result of the collapse of the sea. There is also no doubt that the Frisian islands were once connected to the mainland. The submarine forests and peat bogs on the coast of Sweden and the fauna of the peat bogs of Scania are also proof, according to Nilsson, that Scania and Pomerania were once connected. "Ces tourbieres sous-marines," he said in his lecture on the movement of the soil in Scandinavia at the Anthropological Congress in Copenhagen, "se trouvent dans beaucoup d'entraits soit pres de la cöte soit ä une grande distance de celle-ci, et comme nous l'avons dit, ä une grande profondeur. Because of this, one can assume that there was an epoch when the Baltic Sea did not exist, when Scania and Pomerania were contiguous; ce qu'on peut conclure encore plus sürement de la faune de nos tourbieres de Scanie qui ne consiste absolument que d'animaux qui, apres la periode des glaciers, sont arrives ici du continent germanique, plusieurs d'entre eux ne se sont jamais avances plus au Nord que cette province m[^]ridionale, p. ex. ursus spelaeus, cervus tarandus foss., bos ursus, bos bison, sus scrofa ferus, myscus avella-narius, emys cataria etc. Comme l'abaissement ne s'est produit que peu a peu, les tourbieres n'ont dt⁶ sous-marines qu'ä diff^{er}entes öpoches. Celle du port d'Ystad is one of the least old. L'annöe passde, en creusant le port de Malmö, on ai rencontr⁶ une tourbiere sous-marine contenant des eclats en silex." After pointing out that such finds have also been made in the port of Ystad, he concludes: "En r[^]sumß, il n'est done point possible de douter de l'exhaussement et de l'affaissement du sol de la Scandinavie, ni de la continuation actuelle de cesmouvements."

. >) Compte rendu 58. The investigations carried out in 1884 revealed that the
The result was that, while the northern part of Sweden was developing in the course of

The realization that the coast of southern Scandinavia has been in a state of subsidence since prehistoric times not only opens up an understanding of the Kimbrian flood legend, it also enables a correct appreciation of the Gallic tribal legend about the origin of this people. It has already been stated earlier (pp. 58, 81) that the consideration of the anthropological and archaeological facts, as far as they concern the Neolithic period of Gaul, leads to the irrefutable conclusion that the Aryan-Gallic element is to be regarded as having immigrated from Scandinavia and that this element had already found an Iberian-Turanian population in the country when it immigrated. This result is directly confirmed by the tribal legend of the Gauls as handed down by the Druid tradition, as determined by the learned Greek Timagenes. Ammianus Marcellinus reports on this according to Timagenes as follows: "Drasidae memorant re vera fuisse populi partem indigenam, sed alios quocpie ab insulis extimis confluisse ettractibus transrhenanis, crebritate bellorum etadluvione fervidi maris sedibus suis expulsos."¹) Since the attributes extimae and transrhenani support the possible assumption that the

If we exclude the British Isles as the original seats of the people, and if, moreover, from the standpoint of any hypothesis other than the Scandinavian one, it seems quite improbable to suppose that France would have received its Aryan population from Britain, then the insulae extimae can mean no other islands than the Danish Isles and the Scandinavian peninsula. For outside these islands there are no others in the area of the Aryan territory to which this statement could even with the slightest probability refer. In the same

The sea level has risen by about 7 feet in 100 years, this increase decreases gradually to the south and is now one foot at Cap Lindesnäs, whereas the position of Bornholm has remained unchanged. To give an example, the cliff "Stora Beppen" near Pitea in 1851 was 93 cents higher above the mean water level than in 1750, and from 1851 to

On August 12, 1884, the stamp was again increased by 50 cents.

, so that the Swedish coastline has changed by 143 cents over 134 years.

has lifted. Whether the lifting or lowering takes place slowly and with an even speed or in jerks is still an open question,

²) Ammianus Marcellinus, *Berum gestarum libri qui supersunt*. Ed.

. Gardthausen. XV. 91, 1.

a fully-fledged historical testimony to the origin of the Gauls from Scandinavia.

On the other hand, neither the legend told in the British Triads (13) of the eruption of the lake of Llion, the resulting flooding of the whole country and the downfall of all men except Dwyfan and Dwyhach, who saved themselves on a ship without a sail and through whom the British Isles were repopulated, nor can the Greek legends of the floods associated with the names of Deucalion and Pyrrha and Ogyges be related to Scandinavia. For the phenomenon of uplift and subsidence of the ground can also be traced to Britain, and in the Greek flood legends we can probably see the memories of the pre-Hellenic Semitic (Pelagian) indigenous population of the breakthrough of the Black Sea and the flooding of the Greek-Little Asian land bridge.

In addition to Ammianus, Plutarch also provides historical evidence of the Gauls' origins in Scandinavia. The latter reports in his biography of Camillus: 01 ös Fakaxat TOO KekTtxoo yevoos ovrec ÖTTO -rckiqOoug XsyovTat TTJV aüimy aTioAtTCovTeg, oox ouaav auTapxv] Tpsepstv akavras, S^T^GIV siipac oppLTjQai. poptaoss ös TASIOOC iraßcov xal ^ovatxmv ayovTSS ot psv SKI TOV BOPSTOV 'ßxeavbv uirepßakovTsc Ta 'Ptiiata dpi] püijvai xal xa ecr/ara TT^ Eüpcotngg xaTao^siv, oi ds psxajü IlüppTjV7)<; opooc xal TWV^ Ak7rswv idpüösvTss SSVcÜVCOV xal KskTopimv xaioixeiv jfpovov rcokov.*) Since the Rhaetian mountains cannot be understood as anything other than the Nowegian-Swedish Alps,²) there can be no doubt as to where we have to place the original home of the Gauls. We

*) Plutarch, Camillus 15.

²) An examination of all those passages in which the Rhaetian mountains are mentioned leads to this assumption. Cf. the compilation of these in Männert, Geographie der Griechen und Römer. Only the ignorance of the ancients with regard to the geographical conditions of north-western Europe is to blame for the fact that some writers identified the Rhaetian Mountains with the Alps or the Ural Mountains. Incidentally, Rudbeck (Atlantica I. 655-664: De Rhiphaeis montibus) already proved that the Rhaetian mountains mentioned by the ancient writers could not have meant anything other than the mountains of the Scandinavian peninsula.

will hardly go astray if we transfer them to southern Sweden. The fact that Norway was already populated from here in Neolithic times, to which the words *iirl TÖV BOPSTOV* 'Qxsavov öKspßakovtsc Ta 'Pwtata opvj portal xat T<ZSamara Eöpdnojç xaraaxeiv refer, is also attested by the archaeological finds, insofar as the Neolithic culture represented by them is identical with that of southern Sweden and presents itself as a branch of the latter. It is also worth noting that Plutarch explicitly mentions overpopulation as the cause of the emigration of the Gauls from their original homeland.

As much as the Irish legends about the origins and oldest history of the people are interwoven with biblical and classical tales, it is still clear that they also contain certain references to Scandinavia as the home of the Gaels. In the beginning, savages of unknown origin lived in the forests, without agriculture and without herds, subsisting on hunting and fishing. The first Celtic settlers had then arrived, led by Nāmedh and his sons. They perished or left Ireland as a result of a catastrophe, according to the legend. They were followed by the Fir-Bolg, who are made into a branch of the people of Ndmeth by Irish legend and to whom it expressly attributes a part of the megalithic monuments of Ireland. These Fir-Bolg did not occupy the land in peace for long. Soon after them, another colony had landed which, like the previous one, was descended from Nemedh, the Tuatha de Danānn. They were tall people with blond hair and blue eyes. Although Irish legend says that all immigrants came from the Orient, it explicitly states with regard to the Tuatha de Danānn that they did not come directly from the Orient, but that they had settled in Scandinavia before coming to Ireland. The most important megalithic monuments, namely those decorated with symbolic figures, are attributed to them. *)

Martin, H., *Sar les traditions irlandaises*. *Revue d'anthropologie*. 2^e ser. n. 193-204; Prichard, *Naturgeschichte des Menschengeschlechtes*. HL 1, 155-162.

For the Kymreu, direct evidence that they came from Scandinavia cannot be provided; however, indirect evidence of this can also be provided for them. Even if the Kymren were ethnically different from the Kimmerians, it cannot be denied that both peoples belonged to the Aryan race¹) and that their names are so similar that it is highly probable that they go back to a common basic form and that this common basic form originated in the original homeland of both peoples, similar to the name Aryan, which has also been preserved as a tribal name from the original homeland of various Aryan peoples (Indians, Iranians, Germanic peoples, etc.). That the Cimmerians came from Scandinavia, however, can be supported by a number of ancient testimonies. Plutarch, for example, tells us that the Cimmerians, who first became known to the older Greeks, were only a small part of this people, that the largest and most belligerent part of the Cimmerians inhabited a shady, wooded land on the outermost borders of the earth on the outer sea, which was never warmed by the sun because of the size and density of the forests, which stretched deep into the land to the Hercynians.²) This agrees with the message of numerous ancient writers that the Cimmerians live on the Rhaetians (i.e. the Scandinavian mountains).³

As we know, Homer also has Odysseus enter the land of the Cimmerians. He also describes it as a land located high in the north at the end of the Okeanos, whose inhabitants are shrouded in mist and darkness.⁴) The knowledge of this circumstance, as well as the knowledge of the opposite phenomenon of the north, the short nights of 2-3 hours, which is also hinted at in Homer,⁶) knowledge that the Greeks could neither gain through speculation nor obtain from the Phoenicians, show alone that Homer's tale of the northern Cimmerians is not a true story.

*) The Cimmerians were sometimes described as a Thracian, sometimes as a Scythian people: Hesychius, v. 'Κτῆρῶν; Etym. M. Ji. v.; Eustathius ad Dionys. Per. 163, ad Od. p. 1671; Schol. Apoll. Rhod. II, 163.

²) Plutarch, Marius 11.

⁸) Männert, op. cit. III. 2, P. 368.

⁹) Homer, Od. XI. 12-19.

⁶) Homer, Od. X. 81-86.

merians is more than an ordinary fairy tale, as is only too readily assumed. It takes on even greater significance because, as Müllenhoff has shown, *) the Odysseus saga is identical with the Germanic Orendel saga and therefore its origin, since it cannot be considered a borrowing, must be placed in the primeval Aryan era. As a rule, however, all these legends are based on real events and I have no hesitation in recognizing in these tales of the Nordic voyages of Orendel-Odysseus memories of real sea voyages undertaken by an ancient Aryan sea king,²) especially in view of the fact that the central parts of Sweden - the southern Wermland, as well as Nerike and western Södermanland - were already settled in the Neolithic period, it is not unlikely that individual parts of the north had already received settlers,³) and, on the other hand, it can be assumed with good reason that major voyages to the northern countries, above all to Finland, were already undertaken from Scandinavia in that period.

The proof for this assumption lies in the great similarity of certain stone tools found in Finland with Swedish ones, which can only be explained if one assumes that Finland received immigrants from Sweden as early as the Neolithic period. At the meeting of the Anthropological Society in Stockholm held on January 20, 1877, Montelius discussed the question of Finland's archaeological relations with Sweden in detail and came to the following conclusions with regard to the age of the stones: "A Fölgard de l'âge de la pierre,"

the report on this lecture, written in French, states, "l'orateur fait voir qu'un nombre considérable des types trouvés en Finlande rappellent des formes analogues de la Suède. Gest principalement le cas des marteaux

¹) Müllenhoff, Deutsche Alterthumskunde. I. 30-46.

²) Penka, Orig. ariac. 55-61.

³) Stone objects have been found here and there in western Södermanland, Uppland and Vestmanland, but it is difficult to determine which of them are Stone Age monuments and which belong to a somewhat later period. As many finds prove, stone objects were also used during the Bronze Age. Montelius, Die Cultur Schwedens in vorchristl. Even at the Byske Elf in West Bothnia under the 65°, 70 carved flint chisels originating from southern Sweden have been found.

"naviformes" qui, malgré quelques différences insignifiantes, quoique caractéristiques, présentent une ressemblance si parfaite avec les outils suédois de Fespece, - tandis que cette ressemblance disparaît totalement plus à l'est - qu'ils trahissent forcément une relation historique entre les localités de la Finlande où on les rencontre principalement (les régions côtières de l'Ouest et du Sud) et la Suède. The differences in question show that the Finnish form does not constitute a pure and simple importation of the Suède, but that it is derived from prototypes from this country. On the other hand, in the eastern regions of Finland, there are forms of pierced stone that are completely different from the Scandinavian types and that should be considered as constituting a type of indigenous Finnish pierced stone. Un fait caractéristique pour la Finlande est le manque d'objets en silex, dont on connaît que 3 à 4 exemplaires, tandis que la Suède, comme on le sait, en possède déjà environ 35,000. The absence of native flint in Finland, as well as the perfect similarity between the few flint objects found in this country and the Swedish objects, prove that the first ones were imported from the Suède." *)

. Aspelin also considers the stone culture of Finland to be a branch of the stone culture of Scandinavia.²) Grewingk, who last dealt with this question (1884), also notes the similarity in the way of life and in the stone, bone, clay tools and amber jewelry, as well as in the technique and artistic sense of the western and eastern Baltic stone age population, as established by archaeological finds. He regards southern Scandinavia (Scania) as the starting point of this culture.)³

The results of the archaeological research are confirmed by the craniological finds. The finds collected by Inostranzeff

¹⁾ Tidskrift för antropologi och kulturhistoria utgifven af Antropologiska Sällskapet i Stockholm. I. No. 16.

²⁾ Aspelin, J. R., Muinaisjää, ännöksiä Suomen Suvun Asumus-Aloilta. Antiquites du Nord Finno-Ougrien. 1^{re} livraison. Helsingfors, St. Petersburg, Paris (1877). P. 14.

³⁾ Grewingk, C., The Neolithic inhabitants of Kunda in Estonia and their neighbors. Verhandlungen der Gelehrten Estnischen Gesellschaft zu Dorpat. XII. 67. It is wrong, however, for the same author to regard Ugrians as representatives of this Neolithic culture of the Eastern and Western Baltic.

The ten skulls from Lake Ladoga from the Neolithic period described by Bogdanoff and Tikhomirow (1882), perhaps the oldest skulls ever found in Russia, are for the most part (6) dolichocephalic and have all the characteristic features of the Aryan skull and only 4 are subdolichocephalic, which proves that the Aryans had already encountered an earlier population in this country and mixed with it. ^{LXXXIX})

And as the comparative study of the Ugric-Finnish languages shows, the mixture of the two races - the Turanian-Finnish and the Aryan - also resulted in a thorough mixture of their languages.)²

The etymology of the word Cimmerian also makes the Homeric tale of the Nordic residences of this people seem very likely. There is an Aryan word^x khamara = darkness, fog, which has also passed into the Finno-Ugric languages. Wölke (Greek xspiptspov yäp XsyoDOtv TTJV opLtytagv Etym. M. v. Ksfijispiot and xapiljispos d/Xu;, xsfijispos djrXö?, op.fyX'q Hesych., finn. hämärä, liv. ämär twilight, estn. hämmerus, ämmarus darkness, hämmär darkness, perm. syrtj. kynör, kunör cloud and so on.), to which we can trace the word Kimmerier = Kymren (Kymry) with all the greater probability, as forms such as Cambri (from^x Camri) alongside Cumbri (from^x Cumri) and Kep-p-sptot point to an original a for the later e, i, u, y.

However, it is impossible to think of a more fitting name for the Scandinavian north than that which describes it as "Dark Land" or "Land of Fog". The Old Norse saga of the gods also has

LXXXIX Stieda, L., Pre*historic man of the Stone Age on the Ladoga shore. Russian Review. XXII. 97-124.

²) Since it has been proven that relations between the western and eastern Baltic countries already existed in the Neolithic period, we can also explain the provenance of the brachycephalic skulls found in Neolithic burial sites in Denmark and Sweden in the simplest possible way. Just as there is evidence that people were stolen from the neighboring Slavic countries to Denmark in the Middle Ages, it is also possible that Lapps and Finns captured in wars were brought to the western Baltic countries to perform menial services as early as the Neolithic period.

only linked to real conditions when it moved its Niflheimr (fog home) to the north. ⁹)

It will probably never be possible to determine with certainty at what time the Picts came to Scotland and to which Aryan people they belonged. However, it is very likely that Scandinavia was also their homeland. In the British Triads (7) it is reported that they (Ffichti) came to Scotland via 'i the Scandinavian Sea (Moor Llychlin). Only if one considers Scandinavia as the starting point of their migration can one understand the report of Beda and Nennius about their settlement in Scotland. The former writes: "contigit gentem Pictorum de Scythia (ut perhibent) longis navibus non multis Oceanum ingressum circumagente flatu ventorum extra fines omnes Britanniae Hiberniam pervenisse ejusque septentrionales oras intrasse atque in- venta ibi gente Scotorum sibi quoque in partibus illius sedes petisse nec impetrare potuisse . . . Responderunt Scoti, quod non ambos . eos caperet insula . . . Itaque petentes Britanniam Picti habitare per septentrionales insulae partes coeperunt, nam austrinas Britones occu- paverant." ²) Nennius states: "Picti venerunt et occupaverunt . insulas, quae vocantur Orcades, et postea ex insulis vastaverunt ' regiones multas et occupaverunt eas in sinistrali parte Britanniae et manent ibi tertiam partem Britanniae tenentes usque inhodiernum diem." ³) Claudian mentions the Picts almost as inhabitants of Thule, which, as we know, was the name given to Scandinavia by later writers.

" . . . maduerunt Saxone fuso
Orcades, incaluit Pictorum sanguine Thule.
Scotorum cumulos flevit glaciales Jerne." ⁴)

Following on from the earlier remarks on the Homeric tale of Odysseus' sea voyages and the land of the Cimmerians, it should be mentioned here that the tales of the Greek writers about the land and the people of the Hyperboreans, ⁶) under which country, as Rudbeck has already shown, are also known.

9 The Greeks (Homer, Od. X. 507 - 502; XI. 14 fg.) also placed Hades and the entrance to it in the extreme north, in the land of the Cimmerians.

²) Beda, Hist. eccl. I. 1.

⁸) Nennius, Historia Brittonum p. 50 ed. Gunn.

⁴) Claudianus, De quarto cons. Hon. Ang. v. 31-33.

⁵) Männert, op. cit. HI. 2, 393--405.

The words of Herodotus where he speaks of the Hyperboreans *) can only be interpreted as reminiscences of the old homeland and not as being based on information from later travelers. Herodotus' words at the point where he speaks of the Hyperboreans,²) are ; striking proof of this assumption. XC

If not exactly to Scandinavia, then to a Nordic region as the original homeland of the Aryans is also indicated by the fact that not only the Germanic tribes were organized according to nights and winters, but also the Indians in the earliest times, when they still lived in northern preferred areas, after winters and only later after the rainy season (varshäh) or the autumn (<?arad). The north Germanic year has always been divided into two parts and has neither The threefold division, which Tacitus already knew among the Germans, nor the fourfold division gained a foothold in Scandinavia.³) However, the idea of the ancient Germanic and Hellenic peoples about the shape of the earth points all the more clearly to Scandinavia as the original homeland. Just as the ancient Germanic tribes thought of the earth as a disk around which the sea wrapped itself, whose symbolic animal was the serpent,⁴ so the general popular belief of the Greeks, as expressed in the views of the oldest poets (Homer, Hesiod), imagined the earth as a large circular or elongated round plane or disk, around which the Okeanos flowed. Since the Okeanos is always distinguished from the Mediterranean Sea, the idea of the earth as a disk surrounded by the Okeanos could not have originated in Greece. And since it can be assumed with certainty that this idea is based on sensory perception, we can also assume with certainty that this idea was formed on the Scandinavian peninsula, since there is no other country in Europe outside the British Isles that could have given rise to such an idea h

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¹⁾ Budbeckius, Atlantica. I. 363-424. .1. :

²⁾ Herodotus, IV. 32. ' f

³⁾ Weinhold, K., Altnordisches Leben. Berlin 1856. p. 375; Griimm, Deutsche Mythologie. 4th edition. II. 629.

⁴⁾ Weinhold, op. cit. 358.

⁵⁾ F o r b i g e r, A., Handbuch der alten Geographie. I. 4 sammt Ammerkun^ 7.

The expressions , <

Corrections and supplements.

Page 1, line 4 of the note²) read Bronze for Bronce.

	4		1	top	n	n	"
*	9	n	8	n	n	n	"
"	1		7,		n	"	
"	6	n	7	" below	"	Distribution for connection.	
n	8	n	1	"	n	megalithic for megalithic.	
"	3	"	16	" top		recueilli for recueillie.	
To p.	Li	4 of the note, it should be added that the continuation					

and the conclusion of Much's work on the European Copper Age in vol. XII of the aforementioned journal (also published as a separate edition, Vienna 1886). The following passage (p. LXII) is particularly noteworthy: "That all copper utensils were produced by means of casting . . . can hardly be doubted. This is evidenced by the numerous melting bowls or casting spoons and the copper varnishes from the settlements, as well as the axe from Sipplingen, which is stuck in its casting mold . . . If the shaping had been done by forging, we should also find pieces prepared for forging in those settlements where the processing of copper can be proven, but there is no trace of this." I suspect that the Greek proper name Aischylos (Ata-£U-Xo-G = copper caster) still contains a linguistic monument from this copper age. It is a common occurrence for words that have not survived as generic names to survive as or in proper names. It should also be noted that Much also regards the Aryans as the bearers of the so-called Neolithic culture.

Page 62, line 15 from above read extinct for moved away.

4. to p. 84, " " " Such a hiatus is also possible for Poland.

between the Palaeolithic and Neolithic periods. O. Tischler (the A. 8. 52, note¹) is to be improved in O.) remarks on this (Schriften der physikalisch-ökonomischen Gesellschaft zu Königsberg. 1883. treatises. S. 101): "Zawisza assumes the time between Palaeolithic and Neolithic times to be a rather short one because of the close proximity of the layers and the formation of the valleys. I think this conclusion is unjustified. The gap between the diluvial fauna and the later

Forest and domestic animal world must always be an extraordinarily large one due to changes in climate and geological transformations. Here, as in so many cases, the calculation based only on the deposition of the layers is completely misleading, and thus the research for the transition of both periods in each other no material delivered/

Re 8. 89, line 5 from above. Cf. Tischler's treatise: "Die neuesten Entdeckungen aus der Steinzeit im Ostbaltischen Gebiet und die .Anfänge plastischer Kunst in Nordost-Europa/ Schriften der physikalisch-ökonomischen Gesellschaft zu Königsberg. 1883. treatises. PP. 89-120. .

To p. 131, line 13 of the note. Cf. also Kollmann, Zwei Schädel aus Pfahlbauten und die Bedeutung desjenigen von Auvernier für die Rassen-anatomie. Verhandlungen der Naturforschenden Gesellschaft in Basel. VIII. 217--241 (also published as a separate edition, Basel 1886). According to Kollmann, the significance of the skull from Auvernier, which came from a female, lies not only in the fact that it can be used to prove that brachycephalic chamaeprosopia has existed in Europe for several millennia,

but also the fact that it is an integral part of the facial skull -

extensive correlation of the individual parts, which is due to sexual varia-

bility is not disturbed in the least. This proof is all the

more important than J. Ranke's not only individual but also sexual variability

as having a significant influence on the change in race characteristics. * '

Re p. 135, line 9 of the note. Cf. also Geiger, W.,

Vaterlandi

and the age of Avesta and its culture. Proceedings of the

philosophical--l

philological and historical class of the Imperial and Royal Academy of Sciences

Munich. Jahrgang 1884. 8. 315-310. ,

²⁾ Quatrefages, op. cit. 100.

Penka. The origin of the Aryans.

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²⁾ Thus says the well-known English ethnologist Crawford in his treatise: On the effects of commixture, locality, climate, and food on the races of man (Transactions of the Ethnological Society of London. New series. I. 84): "Taking a wide survey of the different races of mankind as we now see them,

³⁾ Schmarda has compiled the cases belonging here: "The only completely white species of the bear and goose family belongs to the polar zone. *Canis lagopuä*, *Mustela erminea* and *M. vulgaris*, *Lepus borealis*, *L. glacialis* and *L. variabilis* are brown and gray at the southern limit of their distribution area in the summer months; the further north and the longer the winter, the longer the white dress, until it finally reaches the polar zone.

of the distribution area becomes permanently white. There is also a permanently white variant of the reindeer and a white lynx in Siberia. *Tetrao alpinus* and *T. saliceti* turn white in the far north and the Alps. In Scotland, where the winter is mild, the last one, *T. scoticus*, remains colorful. *Falco candicans*, *F. palumbarius*, *Strix nivea* become more and more white to the north and northeast, the brown *Strix aluco* turns gray. *Corvus corone*, the corvid, turns grey towards the north (*Corvus cornix*, hooded crow) and the lighter colored parts of the jackdaw (*C. monedula*) finally turn white (*C. dauricus*, *C. capitalis*)." Schmarda, L., Die geographische Verbreitung der Thiere. Vienna 1853- I. 1, p. 14 and notes 58 and 59, 8. 103.

¹⁾ Dawkins, W. Boyd, The caves and the aborigines of Europe. Translated from the English by Dr. J. W. Spengel. Leipzig and Heidelberg 1876. 8. 295. That Europe is to be regarded as the cradle of man, I have, in connection with the ideas of M. Wagner, in the fourth section of my Orig. Ariac. 72-88 (Origin of the Races of Man); to be compared is W. 8. Duncan, On the probable region of man's evolution in the Journal of the anthropol. Institute of Great Britain and Ireland. XII. 513-525, who, guided by similar considerations on the basis of paleontological and geological facts, also came to the conclusion that man originated in Europe.

²⁾ The average temperature in spring is 14, in summer 15%, in fall 15, in winter 12 1/2 °.

¹⁾ On the one hand, the fact that, as Sayce's decipherment of the cuneiform inscriptions from Van-See shows, at least around 640 BC.

On the other hand, the order of the countries mentioned first in the known country list of Vendidad (1. Airjana vaeg'a, 2) Sughdha (Sogdiana), 3) Mouru (Merv), 4) Bākhdi (Balkh), 5) Nisaja, 6) Haraeva (Herat)), as well as the geographical memories of the Aryan Iranians and Indians in general, which point to today's Turkestan as the next starting point of their migrations (cf. Geiger, W., Ostiranische Cultur im Alterthum. Erlangen 1882. p. 30 fg.), make it highly probable that the immigration of the Asiatic Aryans (Armenians, Iranians, Indians) from Europe to Asia took place by two routes, namely through the Caucasian (Armenians) and the Ural Gates (Iranians and Indians). H. Hübschmann's view of the position of Armenian within the Caucasian language family is also consistent with this assumption; he considers Armenian to be "an independent language branch between Iranian and Slavo-Latvian" (Zeitschrift für vergleichende Sprachforschung. XXIII. 5 fg.).

*) Jahn, op. cit. 4.

²⁾ Snorre Sturlason, p. 447 of the Unger edition.

⁸⁾ Jahn rejects the assumption of the Scandinavian origin of the Burgundians, but without giving positive reasons, and rather considers it advisable to assume a northwestern colonizing spread to Scandinavia from the southeastern shores of the Baltic Sea and a subsequent return flow (8. 6). "At the same time, of course," he continues, "it cannot be denied that the older name "Nibelungen," which the Burgundiones bear in the Norse saga (Niflungen) and in the second part of the Song of the Nibelungs, also betrays a relationship to the higher north, be it, that one interprets it as* sons of the mist (Homer's Nordic Cimmerians are shrouded in mist) or that one traces it back to the king Nifl or Naefill mentioned in the Norse saga and regards it as the older name of the later royal line of the Giukungen, according to which Niflungen would be synonymous with descendants of Nifl." W. Grimm (Deutsche Heldensage. 2nd ed. Berlin 1867. pp. 13, 69) also considers the name of the Nibelungs to be older than that of the Burgundians.

⁴⁾ Monumenta Germaniae historica. Leges. IV. 641.

⁵⁾ Paulus, Historia Langobardorum. Ed. G. Waitz. I. 7; cf. also c. 1, 3, 8, 10, 14. Also noteworthy is the general observation with which Paul introduces his work (I, 1): "Septemtrionalis plaga quanto magis ab aestu solis remota est et

nivali frigore gelida, tanto salubrior corporibus hominum et propagandis est gentibus coaptata; sicut e contra omnis meridiana regio, quo solis est fervori vicinior, eo semper morbis habundat et educandis minus est apta mortalibus. Unde fit, ut tantae populorum multitudines arcro sub axe oriantur . . . Multae quoque ex ea (Germania) pro eo quod tantos mortalium germinat, quantos alere vix sufficit, saepe gentes egressae sunt, quae nihilominus et partes Asiae, sed maxime sibi contiguam Europam adflixerunt . . . In this observation, Paul shows a deeper insight into the ultimate causes of historical events than most later philosophers of history.

¹⁾ Paul, I. 7-13.

²⁾ Migne, LI. 558.

³⁾ Monumenta Germaniae historica. Leges. IV. 642.

⁴⁾ Thus the anthropological differences between the Swedes and the Germans, which were already just as pronounced at that time as they are today, and can therefore by no means be regarded as a product of modern culture or the changed way of life. Rudbeck writes (I. 638): "His addi potest non invalidum ab experientia testimonium. Namque homines quoscunque vertice et ore nigros vulgus nostrum facillime pro Germania habet; Itali enim vel Galli parcius adhuc innotuerunt. In Germania vero color hic capillorum longe vulgarissimus." On the other hand, he remarks in I. 549: "Semper et quidem totius orbis consensu Sueones et Gothi flavis suis crinibus tamquam nota maxime genuina a reliquis populis secreti fuerunt. Nam quo sunt gentes australiores, eo etiam nigriores in eis capillos observamus etc." He also contrasted the greater longevity of the Swedes, which he had his brother, who was a bishop, carry out precise surveys to ascertain, and the great fertility of Swedish women with the observations that had been made in this respect in Germany. It had also not escaped his notice that the northern Swedes differed from the southern Swedes in their higher stature and greater physical strength.

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¹⁾ Adelung, J. Chr., Aelteste Geschichte der Deutschen, ihrer Sprache und Literatur, Leipzig 1806. p. 272.